THE JOURNAL

OF THE

merican Medical Association,

A MEDICAL JOURNAL CONTAINING THE

icial Record of the Proceedings of the Association, and the Papers Read at the Annual
Meeting, in the Several Sections, together with the

MEDICAL LITERATURE OF THE PERIOD

Edited for the Association under the direction of the Board of Trustees,

BY

JOHN B HAMILTON, M D, LL D

VOLUME XXIV

JANUARY—JUNE,

1895

CHICAGO
AMERICAN MEDICAL ASSOCIATION PRESS
1895

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The Journal of the
American Medical Association

Vol XXIV CHICAGO, JANUARY 5, 1895 No 1

ORIGINAL ARTICLES

TYPHOID FEVER IN INFANTS

BY I N LOVE, M D
ST LOUIS MO

Time out of mind the general sentiment in the profession has been in favor of the thought that typhoid fever is not a disease incident to early childhood but when we remember that the Eberth bacillus is the definite cause of the disease and that it is usually carried through polluted drinking water the query may well be presented Why should children who drink water escape typhoid fever any more than those of larger growth?

Age materially affects the liability to the disease, it being especially a disease of youthful vigorous individuals of 15 to 30 years It is true that above that age it is much less frequent, although cases have been observed as late as 60 or even 70 years of age Formerly it was often said that young children were never attacked, but Strumpell truthfully remarks "This was because the disease was not recognized, for in reality it is only children under 1 year who seem to be seldom infected " When we recall that children under 1 year rarely drink water, their food being so largely fluid and being almost uniformly sterilized, we can readily understand why they should escape, and yet we may well question whether there is any special immunity against the danger of the Eberth bacillus in children under 1 year, the same as against most other infectious germs Osler says upon this point 'It is not very infrequent in childhood but infants are rarely attacked " Murchison has seen a case at the sixth month Cases have been observed which were congenital in which the mother had the disease late in pregnancy

It has been my good or ill fortune to see during the past ten years in consultation, a number of children under the age of 2 years which presented mild intestinal disturbance, no marked tenderness over the bowels, a very high temperature, and where the apparent cerebral complications, delirium and stupor being prominent symptoms, were the apparent cause of death In these cases in the death certificate the cause of death was usually given as congestive fever or meningitis Two of these cases occurring within the past year, in both of which *post mortem* examination revealed a pronounced error of diagnosis, has emphasized in my mind the thought that typhoid fever exists more frequently in early child life and in a serious form, than is generally suspected It has generally been supposed that typhoid fever is milder when found among children than among the adolescent Certainly, it has been noticed that intestinal complications and the characteristic ulcers are much less frequent, and as Strumpell says, this explains why "intestinal hemorrhage and peritonitis are much rarer in children," but he truly observes, "severe cerebral symptoms are on the other hand very frequent "

As we know, the laity have long been disposed to apply the term "nervous fever" to this disease, and the term is truly justifiable, because we know how frequent and severe the nervous derangements are which occur in typhoid fever Indeed, in the adult one often finds apparently mild cases where the temperature ranges low and yet where the nervous phenomena are very pronounced Considering the undeveloped, sensitive nervous organization of the child, we have good reason to look for even more pronounced and serious nervous manifestations than in those older

I present the following case

A little girl of 18 months, child of a very prominent physician was taken sick early in May with marked intestinal disturbance The evacuations from the bowels were frequent and copious, accompanied by mucus and blood The temperature ranged from 102 to 104 and on one occasion reached 105 degrees There seemed to be a history of acute indigestion The usual treatment was applied in this direction and the temperature was controlled by cooling baths Flushing of the colon with medicated warm water was applied, followed by starch-water injections containing a few drops of laudanum for the purpose of calming the bowel and reducing the frequency of the operations which interfered with rest *During the early part of the attack*, the child though having frequent operations, was noticed to be calm and gave no evidence of pain Not until the fourth or fifth day, however, was *marked mental obtundity* observed, and the staring appearance of the eyes, together with the indifference to surroundings, impressed me with the fact that there was a cerebral *complication* The course of treatment was continued and the supposed cerebral complication became more pronounced Inability to distinguish light or sound and later a crossing of the eyes, apparently justifying a diagnosis of meningitis The child died about the tenth day *Post mortem* examination developed the absence of meningeal inflammation and the presence of ulcerations of the glands of Peyer, showing us, the physicians in attendance how little we knew of the cause of death

The indications for treatment were the same A recognition of the disease in advance would have probably made no difference, for the holding of the temperature down within safe range, the giving of a bland diet, the securing of rest, the administration of antiseptic remedies to relieve intestinal irritation would have been the indications no matter what the diagnosis The one case was almost a duplicate of the other, and both have emphasized in my mind, together with other experiences, the thought that we must admit the possibilities of typhoid fever during infantile life even more frequently than we have been in the habit of doing, and that we must be on the alert in this direction in order that we may make a correct diagnosis

When we recall the fact that the serious disturbance of the nervous centers, producing coma and eventually paralysis in infectious diseases, (whether due to the Klebs bacillus, the bacillus of Eberth, the pneumococcus or Fehleisen's bacillus of erysipelas) are due to the toxin secreted by the bacilli (and the nervous phenomena in all these diseases are often very pronounced) we can readily appreciate that the child who is so prone to the hybrid and indefinite expression of disease, should often be listed for meningitis instead of typhoid fever

Infectious cerebro spinal meningitis is often accompanied by a rash similar to that of typhoid fever, and we can readily see how easy it is to make an error in diagnosis in this direction

This short paper may be condensed into the following conclusions

1 Typhoid fever occurs more frequently in children than is generally supposed

2 The fact that ulceration and hemorrhage is much less frequent would explain the absence of pronounced abdominal symptoms

3 The erratic, undeveloped and hyper-sensitive nerve centers in early child life explain why the toxic secretions of the Eberth bacillus should make cerebral symptoms very pronounced

4 Given a child of any age with or without intestinal disturbance, with a continued elevated temperature, with or without marked evidence of cerebral disturbance, the possibility of the presence of the Eberth bacillus of typhoid fever should be constantly kept in mind

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FURTHER REPORTS ON THE ABORTION OF TYPHOID FEVER

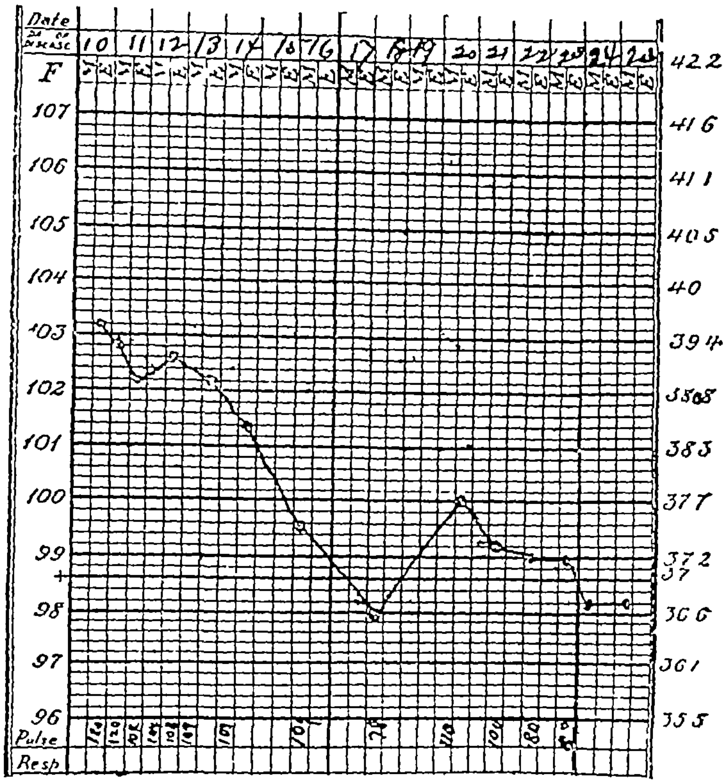
Read before the Mississippi Valley Medical Association at Hot Springs, Ark , Nov 21, 1894

BY JOHN ELIOT WOODBRIDGE, M D
YOUNGSTOWN OHIO

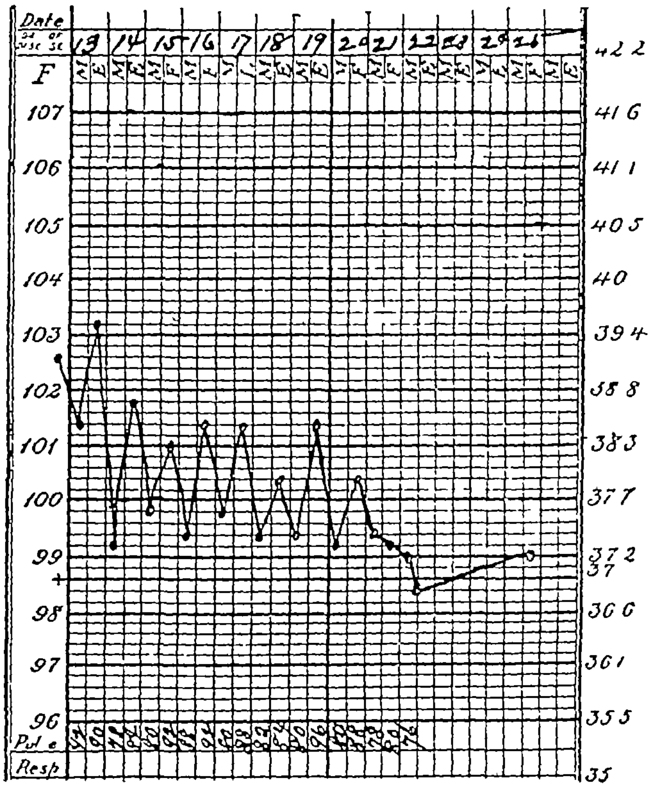
When I accepted an invitation to present a paper at your last meeting, selected for my subject the question, Can typhoid fever be aborted, and answered it in the affirmative, antagonizing the teachings of the most learned professors in every medical college in the civilized world, I knew that I should be severely criticized, no matter how conclusive the evidence might be that my views were correct, and I fully realized, to use the words of a distinguished *litterateur*, that I might expect to stand but sit and sleep on pin points for some years

Nothing, save the feeling of responsibility for every life sacrificed to typhoid fever, and the positive knowledge of its correctness could have forced from me that affirmative answer, looking back over twelve years experience without a death from typhoid, malarial, or any continued fever, to a preceding series of sixteen years with a death rate of 17 per cent from typhoid fever alone, and from a time when my brother practitioners were having no better results than I formerly had On July 17, 1893, I gave in my local society the names and residences of twenty-one cases of typhoid fever out of the large number I had treated June 25, 1893, I instituted a series of clinical charts and began numbering with 20, presenting at your last meeting twenty charts, to show the modification of the temperature curve by treatment

I deem it my duty as a conscientious physician, desiring only the welfare of mankind and the advancement of my profession, to continue the reports of cases falling under my observation The many grateful letters and kindly words of encouragement I have received from brother physicians, and in some cases from the patients themselves, more than offset the intolerant words and unkindly criticism I have met with from others



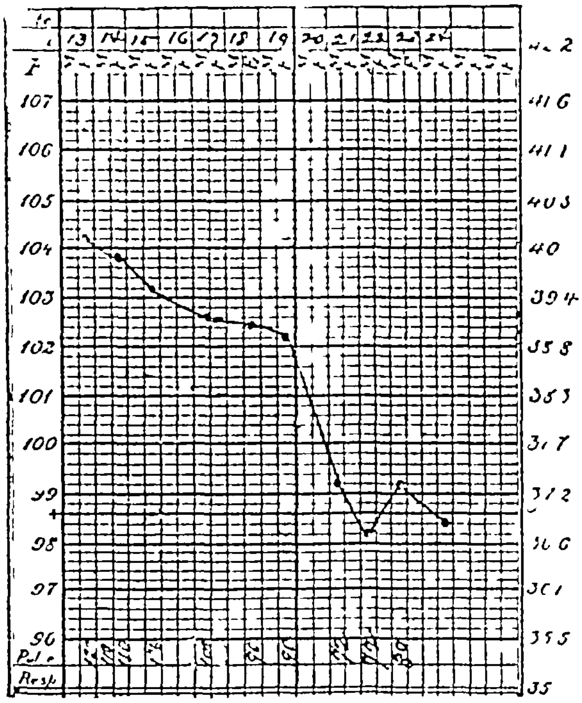
Case 78 —Typhoid fever name, J J , age 6 years, residence, Darrow Street date of admission, July 26, 1894 Result, temperature touched normal on the ninth day



Case 82 —Typhoid fever name, Ezra Main age 26, nativity American occupation, farmer, residence Trumbull County, date of admission August 31, 1894 Commenced treatment August 30 one day before removing to the hospital This patient was diagnosed as typhoid fever and treated a few days by Dr T H Stewart of Church Hill The symptoms becoming grave he feared to continue without a trained nurse, an expense which the family could not afford, hence he was turned over to me on the twelfth day of his sickness and moved nine miles in an ambulance to the Youngstown City Hospital August 31 Bowels very tympanitic tenderness in right iliac region, rose spots abundant, tongue coated, margin red

I have no feeling of unkindness for those persons, because I know that truth being eternal will prevail, and that my critics of to-day, should we all live, will themselves practice the antiseptic abortive treatment in time, and thus vindicate the position which I have been obliged to assume as a logical sequence of the facts I have observed

I hope however that by going annually before some great medical body reporting the cases in which the fever was aborted during the intervening periods and exhibiting the clinical charts and premising that I see the cases at a reasonably early stage of the disease with no death to mar the record that I may ultimately prove beyond the possibility of a doubt that I am not teaching the world to expect or demand more of my profession than it ought Few can realize the anxiety with which one stands before a representative body like this to say that the greatest thinkers, that all of the great teachers in this most learned of the professions the highest aim of which is to mitigate human suffering and to save human life, have promulgated an error which in the one disease under consideration costs more than 50,000 lives annually and unnumbered years of miserable sickness



Case 83 —Typhoid fever name C Smith age 10 years residence Fosterville Ohio date of admission Sept 13 1894 This boy lived in a neighborhood where there were several cases of typhoid fever Was not confined to bed *all* of any day but although presenting well marked symptoms of the disease rode several times on his pony to my office to see me Temperature touched normal on the tenth day of treatment September 13 Headache severe for several days past epistaxis bowels tender and tympanitic September 17 Rode his pony to my office

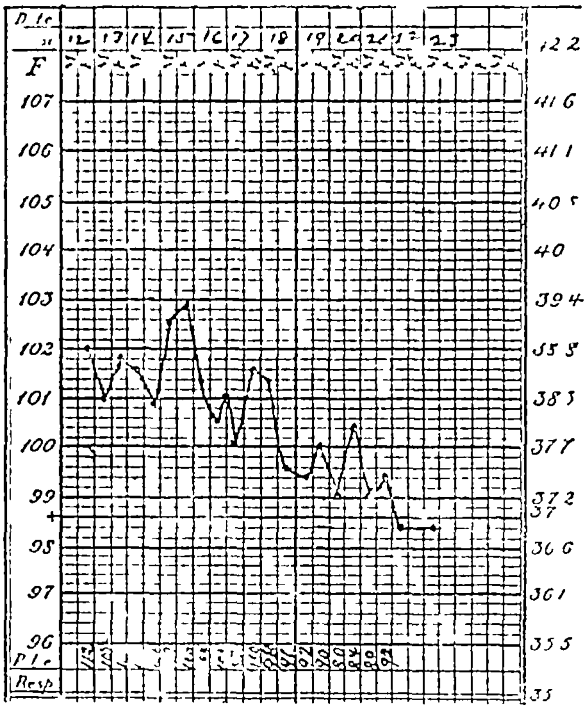
Since our last meeting, I have treated alone or in consultation, fifty four cases of typhoid fever, without a death and with an average duration of treatment of about twelve days I had, also, a case of pneumo-typhus and two or three cases sent by other physicians at late stages of the disease, one as late as the sixteenth day I was called during the year to see one case on the thirty fourth day of sickness when no treatment was needed and another at a somewhat earlier period but when the patient was dying of exhaustion and no treatment was possible In the Section of General Medicine at the San Francisco meeting of the AMERICAN MEDICAL ASSOCIATION I reported my cases up to and including No 75

Case 76—Pneumo typhus, was in a desperate condition when I was called She had been sick ten days, was coughing incessantly, raving wildly and having a profuse hemorrhage of the lungs, her pulse was 160, temperature 106.4 She was treated as a case of typhoid fever, with necessary additions in the later stages to meet the lung complication and made a good though as you will see, not a rapid recovery She lost all her hair

Case 78—John Joyce, was treated until the tenth day of sickness by the family physician under a first diagnosis of malarial fever Dr Cunningham, who had seen some practice in Chicago accompanied me on my first visit having expressed a desire to see some of my work I asked him to examine the patient and make a diagnosis He did so, remarking that he should consider it a typical case of typhoid fever Fearing that his words might frighten the boy's mother who was a stranger to me, I said "Madame you need not be alarmed, there is no danger from typhoid fever if it is properly treated" His temperature touched normal as you will see on the eighth day of treatment

Case 82—Was sent to the hospital from the adjoining county of Trumbull, by Dr T H Stewart He was in the hospital ten days

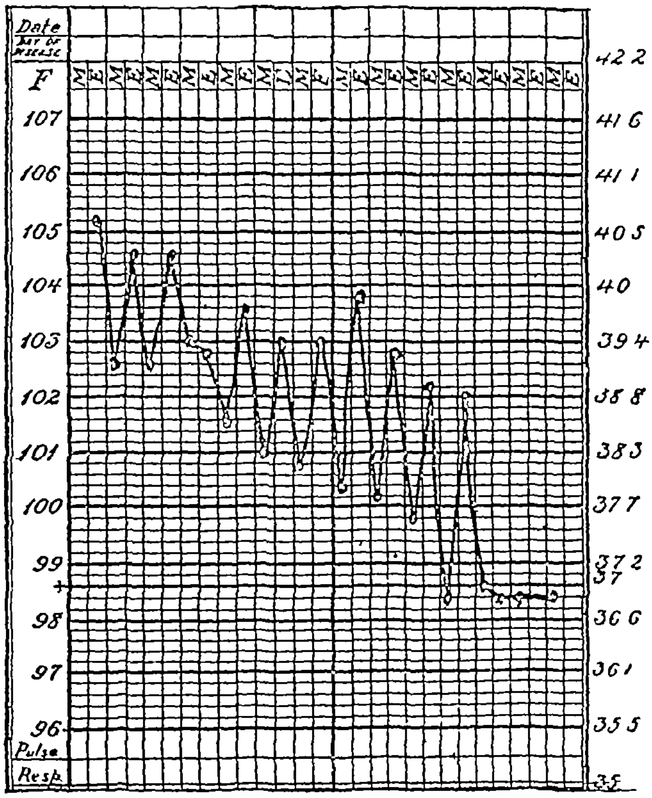
One of the best practitioners in Ohio made a diagnosis of typhoid fever and called me in consultation to Case 83 which made a good recovery



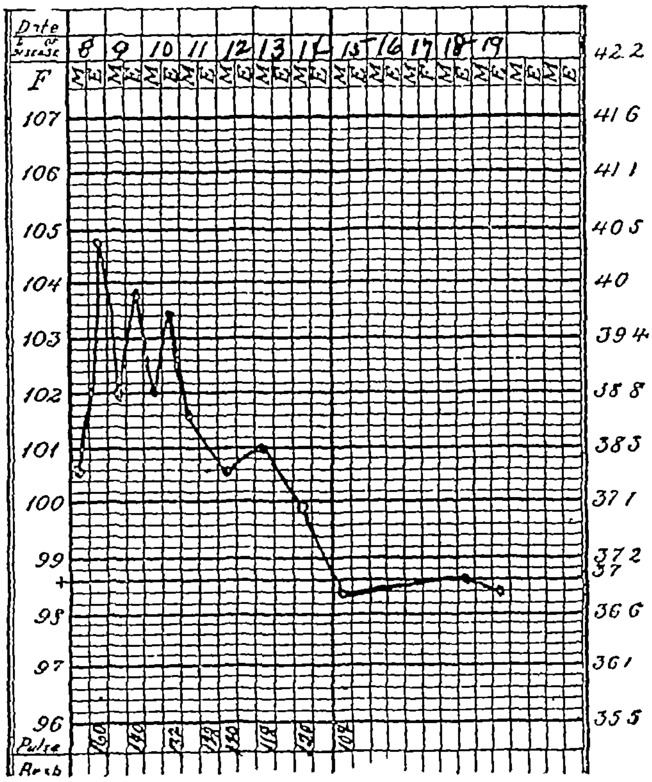
Case 86—Name M H age 17 years residence Pine Street, date of admission, Sept 20 1894 This patient was under the care of another physician who had prescribed corrosive sublimate and one of the coal tar derivatives enjoined perfect rest milk diet made a prognosis of several weeks severe sickness I was called on the twelfth day of sickness Found a typical case of typhoid fever and gave a prognosis of no danger and ten or twelve days sickness She sat up having a normal temperature on the tenth day but a few days later she developed a phlebitis from which she has hardly recovered September 20 Rose spots abundant other symptoms characteristic

Case 86—Was taken sick at the home of her parents but her physician, recognizing the gravity of her condition had her removed to her sister's in a better and healthier locality, and had her put to bed down stairs, saying that she would be very sick for several weeks He treated her until the twelfth day of sickness I was subsequently called to attend this case and being unaware of the Doctor's prognosis, I told the family she would probably be much better in four or five days, and sitting up in ten days, which she did, but had an attack of phlebitis which greatly prolonged the sickness

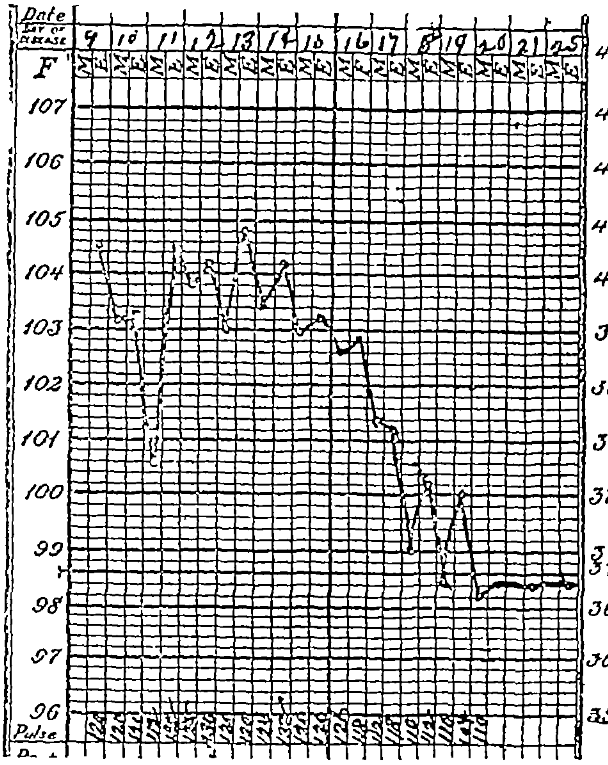
The physician who called me in consultation to Case 83 was himself called in consultation to see Case 86, and after consulting, the two physicians went together to the family (in which there had already been three other cases and one death from intestinal hemorrhage) and told them that Mr M's symptoms were all so very bad that they advised that Dr Woodbridge be sent for in consultation Upon consulting with the doctors, I said "There is no danger of a fatal termination He will have a normal temperature in ten or twelve days," but added, "there is not only no danger of death in this case, but there never is any danger of death from typhoid fever when taken at the stage at which we take this case" Yet his pulse was 100, and his temperature was 105 2, his other symptoms were extremely grave, I was not expected to see him again Prognosis verified by the result



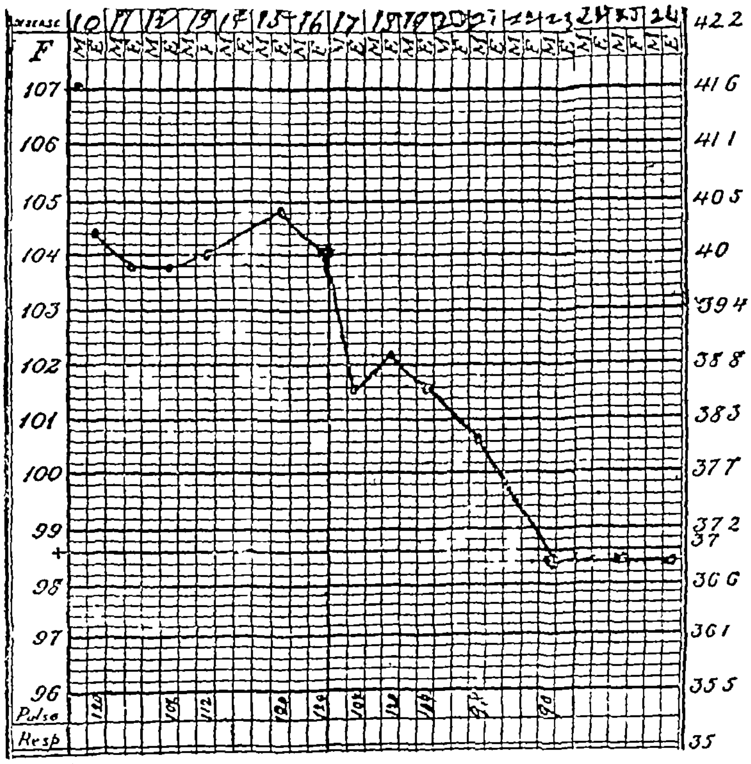
Case 87—Typhoid fever name, O M residence ———— date of admission, September 22, 1894 This patient was the fourth case of typhoid fever in the family, one having died after an intestinal hemorrhage His nervous symptoms being very severe, his attending physician asked for counsel After consultation with his other physician, he asked to have me called, expressing to the family the opinion that the man would die under any known treatment of typhoid fever Temperature touched normal on the tenth day of treatment



Case 89—Pneumo typhus, name P G,, age 4½ years, residence McGuffey Street date of admission Oct 16 1894 Temperature touched normal on the eighth day of treatment On the beginning of treatment nose bleed, headache severe, bowels very tympanitic, slightly delirious On the twelfth day of treatment rose spots abundant *On the eighteenth* day of treatment playing out of doors but very irritable and cross



Case 92—Typhoid fever, Mrs Yost, age, 24 years residence Hazelton, Ohio date of admission Oct 27, 1894 Diagnosis by Drs Bennett and Yost Temperature touched normal on the tenth day of treatment October 27 Bowels very tender and tympanitic headache severe nervous symptoms grave sleepless rose spots abundant October 31 Pulse dicrotic November 1 Pulse dicrotic

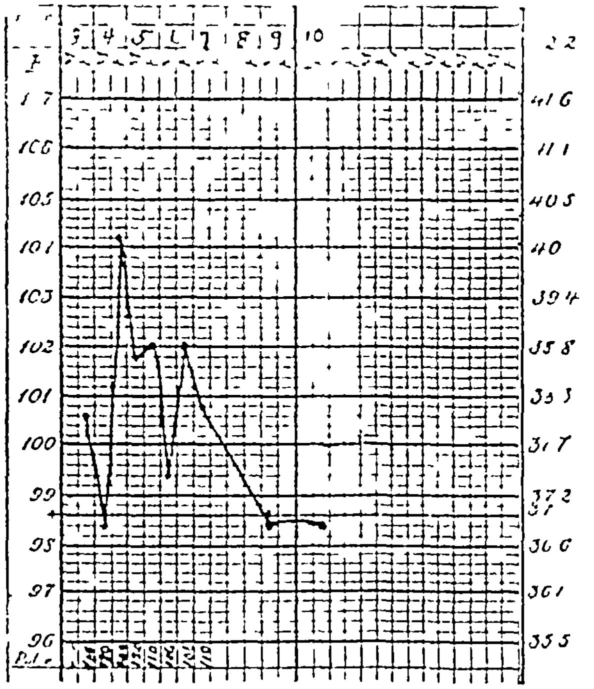


Case 93—Typhoid fever name Mrs ——, residence, Thorn Hill, Ohio, date of admission, Oct 27, 1894 Sanitary surroundings terrible! No fire in house (kitchen separate) No change of bed or body linen No attention to the ordinary demands of cleanliness Husband taken from her bedside to jail Temperature touched normal thirteenth day of treatment When first seen, intense headache, no sleep for three or four nights very nervous abdomen tender and very tympanitic October 15 Three hemorrhages of bowels

Case 91—Mrs G, was seen in consultation with her attending physician Her urine showed large quantities of albumen and an abundance of both granular and hyaline casts Her temperature never went above 101 She had considerable intestinal hemorrhage but made a good recovery

Case [illegible]—When called in Case 93, I was told that she had been sick about ten days but later information led me to believe that she had been sick twelve or thirteen days Her condition, circumstances and surroundings were horrible, neither any part of her bedding nor her underwear were changed nor were her face or hands or any part of her body washed during her sickness There was a cooking stove in a back kitchen somewhere and no fire anywhere else, it was cold weather with snow much of the time The room adjoining hers separated from it only by a loose board partition was scrubbed once and when I went in the water was standing in puddles On one of my visits I found the unemptied bed pan on the bed and on inquiring found her bowels had moved on the morning of the preceding day Her husband was taken from her bedside to jail She had three intestinal hemorrhages in one day She made as you see a rapid recovery her temperature becoming normal on the twelfth or thirteenth day She lived so far in the country that I could not visit her every day

Cases [illegible] and [illegible]—Dr J O Yost his wife and sister are interesting indeed Mrs Yost was under the care of Dr B, a gentleman of unquestioned ability, who about a year ago passed through a very severe ordeal with typhoid fever, confined to bed six weeks, unable to attend to business an additional three months and even yet not over the effects of the attack Seeing his patient growing worse, Dr B called on me about the tenth day and asked me to see her I found as he said, a typical case of typhoid fever, the temperature 104½, the pulse varying between 110 and 134, which later became dicrotic The bowels were very tender and tympanitic, marked dullness over the spleen, the margins of the tongue red, the center coated, much gurgling on pressure, a few rose spots which afterward became abundant, nervous and sleepless, very severe headache A man boarding in a near by house dying necropsy revealed extensive typhoid lesions and a perforation The doctors asked if I considered Mrs Yost in very great danger I answered, giving my usual prognosis "Typhoid fever is never dangerous if properly treated early" Two days later Dr B called my attention to Dr Y, saying that he himself had typhoid fever Examining him, I found his symptoms nearly as well marked as were those of Mrs Yost, save that his temperature and pulse were not so high or frequent and he had no rose spots



Case [illegible]—Typhoid fever name Kittie Yost Hazelton Ohio date of admission, Nov [illegible] 1894 Allowed solid food after the fifth day of treatment Diagnosis made by Drs Bennett and Yost Nov 5 Headache severe cough incessant abdomen tympanitic and tender, pressure produces gurgling

He said if he were going to be confined to bed he should go home I said "Stay and attend to your practice I assure you that you will be able to at least see patients in your office every day of your sickness," and he was

Eight days later, Miss Yost was attacked with typhoid fever, not having said anything about being sick as long as she was able to sit up Her temperature the day before I saw her was 101½, her pulse 100 and all her symptoms characteristic I told the doctor that she would have to to stay in bed three or four days perhaps, but would be well in ten days and could eat solid food all the time

This closes the record since our last meeting Some of the cases diagnosed and numbered as typhoid may possibly have been some other fever, but whatever they were, they all recovered under the treatment of typhoid fever, and this treatment is the least harmful they could possibly have had, there being nothing in it that could possibly be injurious except the little bit of calomel, and of that the dose is exceedingly small, less than one one-hundredth of the dose usually given

No sane man would dare to go into houses with three or four members of a family sick with typhoid fever, the temperature of some of the patients above 105 degrees and give my invariable prognosis, unless he knew that there was power in medicine to ward off the threatened danger No man would dare to make the promises I have made for so many years, unless he knew he could fulfill them Remember, I have invited the closest scrutiny of my cases, and should I have a death from typhoid fever, or fail to abort a case when seen early, it would be emblazoned all over this broad land But had I twenty years instead of twenty minutes, and could take you back and show you all the evidences that proved to me that typhoid fever can be aborted, could I show you all the typical cases that have yielded to this intestinal antisepsis, show the awful complications that threatened the life, show the white haired old lady, with the positive proof of a preexisting Bright's disease, with her repeated intestinal hemorrhages, show you the old man of 73 years, whose young son had succumbed to an intestinal hemorrhage, show the young lady with a year old ovarian trouble presenting a rounded fluctuating mass through the abdominal walls, show you the wife of Angus McPhee with the blood welling up from her lung, and show you, too, that all of these patients recovered, many of them under the most adverse circumstances, totally disregarding all of the things usually insisted upon as essential to recovery Many of them with only such nursing as a young child could give Some giving no attention to restrictions as to diet, and all allowed to use their own pleasure as to exercise and bathing, and yet with no death to mar the record You would commend my course in making so great a sacrifice and even endangering my professional career in the interest of humanity

In the abortive treatment of typhoid fever, an early diagnosis is of the first importance Every case of typhoid fever should be put upon proper treatment the first time seen There should be absolutely no exception to this rule If you await the development of pathognomonic symptoms of typhoid fever before beginning treatment, you will not always succeed in aborting the disease Therefore a diagnosis from any other disease to typhoid fever is wholly unjustifiable, but the reverse is always proper, because the best possible treatment for typhoid fever is also a safe initial treatment for any disease for which it could be mistaken

If you always begin proper treatment when you first see your patient, he will be well often before a positive diagnosis is possible, and you will be deprived of what might otherwise have been a valuable record, but your patient will be the gainer And after all we are physicians first and investigators afterwards Hence, when consulted by a patient who could possibly become a victim of typhoid fever, diphtheria, la grippe, pneumonia or any pathologic condition which would be benefited by *an intestinal or systemic* antiseptic or eliminant, begin at once the treatment for typhoid fever

It must not be supposed that because I have begun treatment at almost every stage of typhoid fever and have treated so large a number of cases and have had no death from typhoid fever or any disease that could be mistaken for it for more than twelve years, that such results are always possible These cases make the proof positive that typhoid fever can be aborted, but it does not follow that it can always be aborted, or even that every life can be saved when it has not been properly treated in its earliest stages

Next in importance to an early diagnosis, if indeed it should not stand *first*, is, that your prescriptions be properly compounded of pure and active ingredients Messrs Parke & Davis have for years supplied most of the materials entering into my prescriptions, and latterly they have put up for me, tablets of formulas Nos 1 and 2, and soft capsules of formula No 3 in a most satisfactory manner

Begin the treatment with a tablet of formula No 1

℞	Podophyllin	gr 1-960
	Hydrarg chlor m	gr 1-16
	Guaiacal carb	gr 1-16
	Menthol	gr 1-16
	Eucalyptol	q s
Sig	Every fifteen minutes	

No laxative effect should be produced during the first twenty-four hours, the object being to secure the antiseptic before the eliminative effect of the remedy During the second period of twenty-four hours, not less than five or six free evacuations of the bowels should be secured Then formula No 2

℞	Podophyllin	gr 1-960
	Hydrarg chlor m	gr 1-16
	Guaiaicol carb	gr 1-4
	Menthol	gr 1-16
	Thymol	gr 1-16
	Eucalyptol	q s

℞	Guaiacal carb	gr iii
	Thymol	gr i
	Menthol	gr ss
	Eucalyptol	m j

One or more tablets every hour or two should be given with No 1 as frequently and in as large doses as possible without producing too much laxative effect, and as long as necessary if no symptoms of ptyalin (a wholly unnecessary complication), appear, in which event they must be discontinued promptly for a day or two, and if necessary chlorate of soda or potash given, returning as soon as possible to formulas Nos 1 and 2 The object is to give these remedies as freely as possible at first, and then so gradually reduce the size and frequency of the doses as to allow the movements of the bowels to become less and less frequent, until, as the temperature approaches normal, the movements shall be reduced to one or two each day About the fourth or fifth day of treatment begin No 3 every three hours

Every dose of medicine should be washed down with large draughts of distilled or sterilized water, or according to indications with some good laxative or diuretic mineral water

This treatment begun early and intelligently carried out will, if the remedies are pure, active and properly prepared, abort typhoid fever and a death from the disease will be unknown

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D, LL.D
NEW ORLEANS LA

(*Continued from page 948*)

Chapter III

CHANGES OF THE TEMPERATURE, PULSE AND RESPIRATION IN YELLOW FEVER

Owing perhaps chiefly to the sudden origin, rapid progress, and singularly fatal nature of yellowfever, as well as the infrequency of the use of the thermometer in the investigation of the disease, but few facts of value relating to the definite degrees of temperature in the different stages of the disease can be found in the writings of various observers Almost all observers, however, as Benjamin Rush,[15] J Deveze,[16] Wm Currie,[17] C Caldwell,[18] Samuel Jackson,[19] P Chas A Louis,[20] W Arnold,[21] R Jackson,[22] Lionel Chalmers,[23] John Lining,[24] A M F Savarésy,[25] William T Wragg, Daniel Blair,[26] John Davy,[27] Schmidtlein,[28] and many others, concur in the statement that in the early stage of reaction or febrile excitement the temperature is elevated to a greater or less degree, in different cases, above the standard of health, and still further, that this elevation of temperature is not permanent, but at the end of from two to five days, in most cases, is succeeded by a decided fall, and although the symptoms may be of the gravest character and the patient *in extremis*, neither the elevation of the temperature nor the frequency of the pulse give any true indication of the danger

Dr John Lining, of Charlestown, S C, appears to have been the first physician who recorded definite observations on the variations of the temperature in yellow fever In his description of the American yellow fever, contained in a letter addressed to Dr Robert Whyte, Professor of Medicine in the University of

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[15] Medical Inquiries and Observations (4 vols octavo), Philadelphia, 1809

[16] Recherches et Observations sur *la Maladie Epidemique qui à regne* à Philadelphia en 1793 Dissertation sur le Fievre Jaune, Traité de la Fievre Jaune, etc

[17] Treatise on the Synochus Icterodes, etc, 1794

[18] Facts and Observations relative to Yellow Fever

[19] An Account of the Yellow or Malignant Fever which appeared in the city of Philadelphia in the Summer and Autumn of 1820

[20] Anatomic, Pathologic, and Therapeutic Researches in Yellow Fever of Gibralter, 1828 translation, Boston, 1839

[21] A Practical Treatise on the Bilious Remittent Fever (Yellow Fever) etc, London 1840

[22] Treatise on the Fevers of Jamaica London, 1791

[23] Accounts of the Weather and Diseases of South Carolina London, 1768

[24] A Description of the American Yellow Fever, in a letter to Dr. Whytt

[25] De la Fievre Jaune, etc Naples 1809

[26] Some Account of the last Yellow Fever Epidemic of British Guiana Third edition, London, 1852

[27] Notes to Blair's Account of the last Yellow Fever Epidemic of British Guiana

[28] On the Temperature in Diseases by Dr C A Wunderlich (Sydenham Society, page 405)

Edinburgh, dated Charlestown, Dec 11, 1753, and published March 7, 1754, the following general observations relate to the changes of the pulse, respiration and temperature in this disease "After a chilliness and horror with which the disease generally begins, a fever succeeded, in which the pulse was very frequent till near the termination of the fever, and was generally full hard and consequently strong, in some, it was small and hard, in others, soft and small but in all these cases it frequently varied in its fullness and hardness Toward the termination of the fever the pulse became smaller, harder and less frequent In some, there was a remarkable throbbing in the hypochondria in the latter of which it was sometimes so great that it caused a constant tremulous motion of the abdomen

"The heat generally did not exceed 102 degrees Fah , in some it was less it varied frequently, and was commonly nearly equal in all parts, the heat about the precordia being seldom more intense than in the extremities, when they were kept covered In the first day of the disease some had frequent returns of a sense of chilliness though there was not any abatement of their heat In a few, there happened so great a remission of the heat for some hours, when at the same time the pulse was soft and less frequent, and the skin moist that one from these circumstances might reasonably have hoped that the fever would only prove a remittent or intermittent About the end of the second day, the heat began to abate

"The respiration was by no means frequent or difficult, but was soon accelerated by motion, or the fatigue of drinking a cup of any liquid

"A nausea vomiting or frequent retching to vomit, especially after the exhibition of either medicines or food, came on generally the third day, as the fever began to lessen, or rather as the fullness of the pulse, heat and disposition to sweat began to abate Some, indeed, but very few, on the first day had a vomiting either bilious or phlegmatic

"The strength was greatly prostrated from the first attack The pain in the head, loins, etc , of which they had complained before the attack, was greatly increased, and in some the pain in the forehead was very acute and darting but these pains went off generally the second day The face was flushed, and the eyes were hot, inflamed, and unable to bear much light

"The fever accompanied with these symptoms terminated on the third day, or generally in less than seventy two hours from the first attack, not by any assimilation, or concoction and excretion of the morbid matter, for if by the latter, there would have been some critical discharge by sweat, urine, stool or otherwise, none of which happened , and if, by the former, nothing then would have remained but great debility No, this fever did not terminate in either of these salutary ways, excepting in some, who were happy enough to have the disease conquered in the beginning by proper evacuations, and by keeping up a plentiful sweat, till the total solution of the fever by proper mild diaphoretics and diluents But those who have not that good fortune, however tranquil things might appear at this period, (as great debility and a little yellowness in the whites of the eyes seemed to be the chief complaints,excepting when the vomiting continued), yet the face of affairs was soon changed , for this period was soon succeeded by the second *stadium*,—a state, though without any fever, much more terrible than the first, the symptoms in which were the following

"The pulse immediately after the recess of the fever was very little more frequent than in health, but hard and small However, though it continued small, it becomes soon afterward slower and very soft , and this softness of the pulse remained as long as the pulse could be felt In many, in this stage of the disease, the pulse gradually subsided, until it became scarce perceptible , and this notwithstanding, all the means used to support and fill it , and when this was the case, the icteritions—like suffusion, the vomiting, delirium, restlessness, etc , increased to a great degree In some, the pulse often being exceedingly small and scarce perceptible, recovered considerably its fullness, but that favorable appearance was generally of but short continuance

"The heat did not exceed the natural animal heat , and when the pulse subsided, the skin became cold and the face, breast and extremities acquired somewhat of a livid color　　The respiration was natural or rather slow　　The vomiting or retching to vomit increased, and in some was so constant that neither medicines nor ailments of any kind were retained　Some vomited blood , others only what was last exhibited, mixed with phlegm , and others again have what is called the black vomit The retching to vomit continued a longer or shorter time according to the state of the pulse , for as that became fuller, and the heat greater, the retching to vomit abated, and *à contra*

The debility was so great that if the patient was raised erect in the bed, or in some, if the head was only raised from the pillow, while a cup of drink was given, the pulse sank immediately and became sometimes so small that it could scarcely be felt , at this time they become cold, as in a horripilation, but without the anemic like skin , their skin became clammy, the delirium increased, their lips and skin especially about the neck, face and extremities, together with their nails, acquired a livid color

"There were many small spots, not raised above the skin, which appeared very thick on the breast and neck , but less so on the extremities, and were of a scarlet, purple or livid color In women the menstrua flowed, and sometimes excessively, though not at their regular periods

"There was such a putrid dissolution of the blood in this *stadium* of the disease, that, besides the vomiting of blood formerly mentioned, and the bloody urine soon to be taken notice of, there were hemorrhages from the nose, mouth, ears, eyes, and from the parts blistered with cantharides　Nay, in the year 1739, or 1745, there were one or two instances of a hemorrhage from the skin, without any apparent puncture or loss of any part of the scarf skin

When this *stadium* of the disease terminated in health, it was by a recess or abatement of the vomitings, hemorrhages, delirium, inquietude, jactatations, and icteritous like suffusion of the skin, and white of the eyes , while at the same time, the pulse became fuller and the patient gained strength, which after this disease was very slowly But when it terminated in death, these symptoms not only continued, but sooner or later increased in violence, and were succeeded with the following, which may be termed the third *stadium* of the disease, which quickly ended in death

"The pulse though soft became exceedingly small and unequal, the extremities grew cold, clammy, and livid, the face and lips in some were flushed, in others, they were of a livid color, the livid specks increased so fast that in some the whole breast and neck appeared livid, the heart palpitated strongly, the heat about the precordia increased most, the respiration became difficult, with frequent sighing, the patient now became anxious and extremely restless, the sweat flowed from the face, neck and breast, blood flowed from the mouth or nose or ears, and in some, from all these parts at once, the deglutition became difficult, the hiccoughs and subsultus of the tendons came on and were frequent, the patients trifled with their fingers, and picked the nap of the bedclothes, they grew comatose, or were constantly delirious In this terrible state, some continued eight, ten or twelve hours before they died, even after they had been so long speechless, and without any perceptible pulsation of the arteries in the wrists, whereas, in all other acute diseases, after the pulse in the wrist ceases, death follows immediately When the disease was very acute, violent convulsions seized the unhappy patient, and quickly brought this *stadium* to its fatal end After death, the livid blotches increased fast, especially about the face, breast and neck, and the putrefaction began early, or rather increased very quickly

"This was the progress of this terrible disease through its several *stadia* But in hot weather, and when the symptoms in the first stage were very violent, it passed through these stages, as Dr Warren has likewise observed, with such precipitation that there was but little opportunity of distinguishing its different *stadia*, the whole tragedy having been finished in less than forty-eight hours"

Dr Lining also records observations on the changes of the tongue, skin and urine which have been omitted from the preceding quotation, in order to present in a connected manner his accurate accounts of the changes of the pulse, capillary circulation, blood, respiration and temperature

In his prognostics, Dr Lining held that a sediment in the urine in the first and second day of the disease is bad, and the more copious the sediment is, the greater is the danger, bloody urine and all hemorrhages, excepting slight ones from the nose are bad, and the more copious they are, the greater is the danger, a suppression of urine, especially in those who in the course of the disease have had large discharges that way, is a certain sign of the quick approach of death

Dr Lining held that the yellow fever of America was a pestilential, specific contagious fever, imported from the West Indies, "which continues two or three days and terminates without any critical discharge by sweat, urine, stool, etc, leaving the patient excessively weak, with a small pulse, easily depressible by very little motion, or by the erect posture, and which is soon succeeded with an icteritous color in the white of the eyes and the skin, vomiting, hemorrhages, etc, and these without being accompanied with any degree of a febrile pulse and heat"

Subsequent observations have tended to confirm the accuracy of Dr John Lining's comprehensive description, and the voluminous writings of Dr Benjamin Rush, of Philadelphia, Drs Samuel Latham Mitchell, and Edward Miller, of New York, and others a century later added literally nothing to the fullness of his description, but on the contrary these writers, and especially Benjamin Rush, caused much subsequent confusion by confounding the endemic malarial, paroxysmal fevers of the paludal regions of North America with the specific yellow fever of the West Indies

Savarésy[29] who observed yellow fever in Martinique in 1803 and 1804, affirmed that the heat rises often as high as 38 or 40 degrees of Reaumur—equal to 117 00 or 102 2 Fahrenheit

Dr John Davy[30] published in 1814 the first of his remarkable papers containing the results of his experiments *in animal heat, and in 1816 he began his* observations upon the temperature of man in various climates, in various diseases and under various states of rest and exercise, fasting and repletion in various races,[31] and in 1828 he established the singular fact that the human body may manifest a high degree of heat after death

The following are the cases as reported by Dr John Davy

Case 1—Aged 23 years, was admitted into hospital on July 30, 1828, laboring under symptoms (as it was supposed) of acute rheumatism, having some pain first in one shoulder, then in the other, followed by pain in the hips, attended with much pyrexia, and a very rapid pulse He died on August 6, a few minutes after 7 A M As the weather at the time was very hot (Military Hospital in Valetta, Island of Malta), and dead animal matter putrefied rapidly, it was necessary to inspect the body as soon as possible Accordingly, it was examined three hours and a half after death, when the temperature of the air of the room was 86 degrees The appearances most remarkable discovered on dissection, were extensive collections of matter in the right shoulder, among the muscles on each side of the spine of the scapula, with sinuses extending to the axilla, and around the capsule of the shoulder joint, and a lesion of the same kind, and as extensive, in the left hip close to the head of the femur, spreading through the glutei muscles, and marks of incipient inflammation (as ecchymosis) on the right hip The viscera were apparently sound The right cavities of the heart and the great vessels were distended with liquid blood The body was slender but not emaciated Its surface was warm, the deeply seated parts felt very hot, imparting a disagreeable sensation, almost like that of burning, to the hand in contact with them The thorax was first opened and afterwards the abdomen After partial exposure of the surface of the contents of these cavities to the air for about ten minutes a thermometer was procured Placed under the left ventricle of the heart it rose to 113 degrees, and under the liver, in contact with the lobulus spigelii, to 112 degrees

Case 2—Aged 27 years, a stout, robust man, died suddenly in barracks, on August 6, at about 1 30 A M The body was examined at 5 P M There was a good deal of reddish fluid in the ventricles, and at the base of the brain The lungs were distended with black liquid blood, some of which had passed into the bronchii There was very little blood in the cavities of the heart The temperature of the air of the room was 86 degrees As soon as the cavities of the thorax and abdomen were opened, the bulb of a thermometer was in succession placed under the left ventricle of the heart, and under the lobulus spigelii of the liver, in the former situation it rose to 108 degrees, in the latter to 107 degrees Almost a quarter of an hour afterwards, introduced into the substance of the right lung, gorged with extravasated blood, it was 105 degrees

The question will naturally be asked, Was the extraordinary temperature, in one case of 113 degrees, and in the other of 108 degrees, generated during life or after death? Dr Varez had little hesitation in coming to the conclusion that it was generated before death, and generated probably in the same way as the ordinary degree of animal heat experienced in health, or the extraordinary degree witnessed in febrile diseases A *priori*, the effort of the heat generating process, whatever it may be, can hardly be limited In many birds, it raises the temperature of the body to 109 degrees, when in perfect health, and in man to 101 degrees, at least in the tropics, without deranging health, and it is easy to conceive that by increased activity or energy, it may exalt the temperature to the common febrile height, or to a height greatly exceeding that But, destitute of life, in the opinion of Dr Varez, there does not appear to be in the body any source of heat, any power of generating it, that is known Putrefaction had not taken place in these bodies, even if it had, and had made progress, and were it even at its greatest height of activity, it is doubtful if it would be equal to the production of the effect in question

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[29] De la Fievre Jaune en générale, et particulierement de celle qui a régne a la Martinique en l' an xi et xii 1803, 1804, 8vo Naples, 1809

[30] Philosophical Transactions of the Royal Society of London 1814, p 590 Researches, Physiological and Anatomical by John Davy, M D and R S Assistant Inspector of Army Hospitals, 1839 vi pp 141 248

[31] Third Ed Philadelphia, 1826, Res, Phys and Anat, vi, p 161

It is a matter of regret that the temperature of the preceding cases was not ascertained by Dr Davy before as well as after death, it is only known that the skin of the first case the day before he died was pungently hot

These observations by Dr Davy were of great value, in that they should have put medical inquirers on their guard as to the extreme limits of the degree of animal temperature, and especially of the blood in deep seated parts If the temperature of the body be 113 degrees, three hours after death, and if generated during life, before death it must have been still higher Similar investigations were instituted by Dr Bennet Dowler fifteen years later in 1843, 1844, 1858, on the *post mortem* heat of yellow fever and other diseases, the results of which will be fully examined in a subsequent part of the present discussion

Subsequently, Dr John Davy[32] made observations on the pulse and temperature in yellow fever, during his service in the West Indies Thus in his notes to the work of Dr Daniel Blair, on the yellow fever which prevailed in British Guiana from 1837 to 1842, Dr Davy states that, "unusual slowness of pulse was very often observed in the yellow fever of Barbadoes, and commonly accompanied with undue coolness of skin, especially in the extremities, it was a very remarkable feature of the disease after its first invasion—the time varying in different cases From the few observations which were made with the thermometer, on the temperature of men laboring under yellow fever in Barbadoes during the last epidemic, it did not appear to be high—when highest not exceeding 104 degrees Fah in the axilla In two instances trial was made of the temperature after death (four hours), on one (Fitzpatrick), that of the brain was found to be 98 degrees, of the lungs 100 degrees, of the heart 101 degrees (left ventricle), 100 degrees (right ventricle), in the other (Reynolds), that of the brain was 98 degrees, that of the lungs 102 degrees, of the heart 104 degrees (left ventricle), 103 degrees (right), of the liver 103 degrees For the latter observations Dr Davy was indebted to his friend, Staff Surgeon Dr Spence, who in the capacity of principal medical officer of the garrison of St Ann, had ample opportunities to study the disease, of which, until attacked by it, he zealously availed himself

Dr Arnold[33] in his "Practical Treatise on the Bilious Remittent Fever" (yellow fever), devotes an entire section of his work (occupying 66 pages out of 320), to the illustration by tables and cases of the temperature of the system in the febrile diseases of Jamaica, and states in his preface that he considers the temperature of the system in febrile diseases to be one of the most formidable symptoms, and expressed the belief that the system when laboring under bilious remittent fever (yellow fever), "must inevitably give way to the cause which produces even a few degrees of thermal exaltation beyond 105 degrees of Fahrenheit's scale, and that all our remedies will have little effect if we find it 110 degrees during the first or second stages"

The observations of Dr Arnold were begun in 1819, and continued for twenty five years, and he prefaces his observations on the changes of temperature in yellow fever, remittent fever, intermittent fever and typhoid fever, by the results of his investigations on the normal temperature of 107 subjects of all denominations, ages and sexes, including Creoles, black laborers, domestics, carpenters, mulattoes, white natives and Europeans, and the mean of that whole series was 98 19 degrees F, which Dr Arnold considered a correct estimate of the temperature of the system in health in a climate like that of Jamaica Dr Arnold says "*I believe there is no study more calculated to improve the healing art, or to throw more light on the nature of febrile diseases, than a minute attention to the state of the temperature of the system*"

I shall next point out the deviations which occur in consequence of febrile or preternatural heat, by a series of cases and observations, for the purposes contemplated in the inquiry, and I think it will be seen that the system is not capable of having any great augmentation of heat from morbid causes, without incurring serious, and sometimes irreparable mischief In fever, particularly of the remittent form, the whole power of the animal economy is deranged—all its healthy functions are suspended, digestion is only imperfectly performed, the mental energy is much weakened by the agent which causes the fever, the ardent heat and rapid circulation, the heart is laboring and appealing for relief, the whole system is screwed up, as it were, to its highest pitch of excitement *The heat, at this time, is at its utmost limit, and if continued for many hours, the extinction of life* would in all probability result, in consequence of various changes or decompositions taking place in the blood The exact degree of heat which is necessary to achieve this end has hitherto not been very accurately ascertained, it will require much diligent investigation to settle the point The ingenious Dr Hales believed "the heat of the blood in high fever to be 136 degrees" This is irreconcilable to anything I have witnessed during twenty-five years' practice Boerhaave also made various experiments, and he seems to think that "*terribly mischievous work might be effected by a degree of heat above 106 degrees, for, as he asserts, the serum of the blood would be coagulated*" And he further asserts *that the natural heat of the blood of a human creature approaches very nearly the degree of coagulation* Hippocrates, 4 de Morb, 23, observes "Such a degree of heat, if neglected or wrongly managed, may indeed dissipate the more thin and watery parts, and so gradually thicken the whole mass of blood, have bad enough effects that way, if it do not bring on a putredenous thinness" This was evidently but supposition, the serum of the blood or the white of an egg, requires a degree of heat to coagulate, which no living animal can bear, notwithstanding the puzzling tricks of fire eaters and such mountebank impostors, who thrust themselves into ovens heated sufficient to bake a leg of mutton Water at 108 degrees is too hot for the hands for any length of time, yet there are some persons, from custom, who can handle very hot pieces of iron, but such instances are only sufficient to form an exception to the rule and require no further comment"

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[32] Some Account of the last Yellow Fever Epidemic of British Guiana By Daniel Blair M D Surgeon General of British Guiana Edited by John Davy M D, F R S, etc London, 1852, pp 77, 78

[33] A Practical Treatise on the Bilious Remittent Fever its Causes and Effects With Illustrative Tables and Cases on the Temperature of the System in the Febrile Diseases of Jamaica, etc By W Arnold M D, etc London, 1840

Dr Arnold records several fatal cases in which the temperature ranged from 108 to 110 degrees in the axilla In three cases of yellow fever recorded by this physician, the temperature reached 110 degrees, and a similar degree of heat was observed in several cases during life by Dr Bennet Dowler in 1843, 1844 and subsequently In 1843 he began a remarkable series of investigations on the temperature of the heart and axilla during the various stages of yellow fever, and of the different organs after death His original paper was first transmitted to, but not published in full in the *Western Journal of Medicine and Surgery* during the winter of 1843–44 Dr Dowler continued his observations on the temperature in yellow fever and other diseases during a period of sixteen years,[34] and he established the fact that the temperature of the internal organs may attain after death a degree of heat equal to that witnessed by Dr John Davy in the Island of Malta in 1828, viz, 113 degrees Dr Dowler confirmed the accuracy of the statement of Dr Arnold, of Jamaica, that the temperature of the axilla in yellow fever may reach 110 degrees F, and he also demonstrated that patients may recover from yellow fever whose temperature in the axilla has reached 109 degrees

Dr Dowler also demonstrated that, as a general rule, the temperature in the early stages of yellow fever is higher in fatal cases than in those which recover Thus, in one series of cases of yellow fever, taken without selection, the following results were obtained Fifteen patients who recovered, whose temperatures were taken at a period which averaged fifteen and one-third hours after the invasion, and afforded a mean temperature for the hand of 101 8 degrees, and for the arm-pit 104 84 degrees, nine persons who died, gave an average of, twenty-two and one-third hours after the invasion, for the hand, 103 62, for the arm-pit, 105 44 degrees

The maximum of these classes coincided, but not the minimum In those who died the average was higher, in the hand, the maximum reached by both was 107 degrees, the minimum in the hand among those who recovered was 95 degrees, and of those who died 99 degrees, the maximum of the former, in the axilla, 107 degrees, of the latter, 109 degrees, the minimum of the former, in the same region, 102 degrees, and of the latter 100 degrees, the latter being in *articulo mortis*

Full justice will be done to the labors of Dr Bennet Dowler in that portion of this chapter which relates to *post mortem* heat in yellow fever

Dr Daniel Blair,[35] in his last published report on the "First Eighteen Months of the Fourth Yellow Fever Epidemic of British Guiana," says "High temperature of the body seems to have persisted longer through the stages of the disease in this epidemic than in the past There is great irregularity in the temperature of the surface, sometimes the forehead is the hottest part of the body, and occasionally the chest The uncovered portions of the body in the latter stages are easily reduced in temperature, and thus while the exposed chest and extremities may feel cool to the touch, the axilla may raise the thermometer to 102 or 103 degrees The highest temperature I have observed during the course of the disease was 107 degrees Fah"

According to Dr Wragg,[36] in some cases of yellow fever, the thermometer indicated a temperature of 108 degrees in the arm-pit, and 105 degrees on the chest

Dr Robert N Lyons,[37] has recorded valuable observations on the relations of the pulse and temperature in the yellow fever which prevailed in Lisbon, Portugal, in 1857 Dr Lyons arranges the cases under five groups, viz 1, the algid form, 2, the sthenic form, 3, the hemorrhagic form, 4, the purpuric form, 5, the typhus form

(To be continued)

NOTES ON THE MAIN CHANNEL OF THE SANITARY DISTRICT OF CHICAGO

Read before the Civic Federation of Chicago

BY J W BEARDSLEY, C E (CORNELL UNIVERSITY)

It is impossible within the few minutes at my disposal to more than cursorily touch upon the following general points relative to the main channel of the Sanitary District of Chicago

1 A general description of the present progress of the work

2 Some of the benefits accruing to the residents of Chicago upon the completion of the channel

3 Points of interest in a tour of the line

Of the well-known facts regarding the origin of the project, the labor involved in its legal birth and the imperative demands of sanitation for immediate relief, I will say nothing The existing result is a channel under process of construction and about thirty miles long The eastern terminus is at the intersection of Robey Street with the west branch of the south fork of the river, the grade of the bottom being about twenty-four and one-half feet below the Chicago datum plane, or the low water of Lake Michigan, thence it extends westerly, through the ancient water course of the Great Lakes to the Gulf, to the lower terminus at Lockport, where the bottom has an elevation of thirty feet below the Chicago datum plane

The line is separated naturally into four divisions by the cross sections, and by the nature of the material to be excavated

From the eastern terminus at Robey Street to the lower part of Section F, a distance of about nine miles, the material is of a nature to be readily excavated without interference to navigation or discharge whenever, in the future, sanitation demands a larger channel Therefore, the area of the cross-section is a minimum being held to a bottom width of 110 feet This section is designed to carry 300,000 cubic feet of water per minute The average cutting is thirty-seven feet deep

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[34] Experimental Researches into Animal Heat in the Living and in the Dead Body by Bennet Dowler, M D, of New Orleans New Orleans Medical and Surgical Journal, Vol xii, 1856, pp 54 205, 289, 433, 603, 750, 483, 470 Vol xvii, 1860, pp 190, 256

[35] British and Foreign Medico Chirurgical Review, April, 1856, Appendix, p 6

[36] Charleston Medical Journal and Review, 1855, Vol x p 73

[37] A treatise on fever or selections from a course of lectures on fever, being part of a course of theory and practice of medicine, delivered by Robert V Lyons, K C C, etc Am Ed, 1861

Near the lower end of Section F, the material becomes more difficult to excavate and is designed for the maximum discharge of 600,000 cubic feet per minute a quantity sufficiently large to so dilute the sewage of 3,000,000 inhabitants that the effluent will be harmless for manufacturing purposes Here the cross section is expanded to 202 feet on the bottom with side slopes of 2 feet horizontal to 1 foot vertical The maximum velocity is about twenty one inches per second The average cut is nearly thirty-six feet for the next five and one half miles

The third natural division beginning near Willow Springs marks the appearance of rock, the glacial drift forming about two thirds of the material to be excavated The cut averages about thirty seven feet Here the cross section is decreased to 160 feet at the bottom and 163 feet at the top of the channel giving, practically vertical sides Retaining walls, extending from the rock up to five feet above the datum plane, form the sides of the channel This bottom width of 160 feet controls the remainder of the line Here also the union between the bottom widths of 160 feet and 202 feet is made The retaining walls extend out as wing walls to the required form of the preceding section

The grade has an increment corresponding to the decrease in area of the cross section and still provides for the maximum discharge of 600,000 cubic feet per minute This requires the velocity to be increased to thirty inches per second, or two miles per hour

Near the eastern end of Section 7 begins the fourth natural division the glacial drift practically disappears forming only about 3 per cent of the total excavation for the remaining nine miles The average cutting through *solid rock* is about thirty-three feet This unparalleled rock excavation has necessitated the use of channeling machines for cutting vertical sides, drills to prepare the rock for blasting, and various conveyors for removing the shattered rock after it has been loaded by hand into skifls or buckets The end of this division and the western terminus of the main channel—Section 15—is partly built up and partly excavated and marks the location of locks, when the channel is finally open to navigation, but for the present it will be the site of the controlling works, by which the discharge of the new channel into the Desplaines River may be regulated These works must provide for the surface fluctuations in Lake Michigan, which would result in an extreme oscillation of about thirteen feet at the controlling works The surface of the water at the controlling works is some ten feet above the surface of the Desplaines River, which makes a rapid descent for about four miles to Lake Joliet It will require extreme care to safely dispose of this immense volume of water over such a declivity, and it also suggests the enormous energy which could there be developed, estimated by Mr Cooley to be 55,000 horse power between Lockport and Joliet, and 45,000 between Joliet and La Salle Such a power and such a water way have caused in similarly located places, phenomenal growth, and may form a source of income to the sanitary district of no mean moment

The expenditure of $3,000,000 (actually $2,606,227 92) for a right of way has received its share of criticism It would be a paradox to find a charitable object or institution, a financial success But measure, if you can, the development of the city along such an avenue of commerce, the value of adjoining lands, which the trustees with keen foresight have added to the assets of the sanitary district, wharf privileges and warehouse rentals, and show that within the lifetime of some of us this same right of way may not prove a magnificent investment for meeting bonded indebtedness, or, for the expenses of maintenance and development

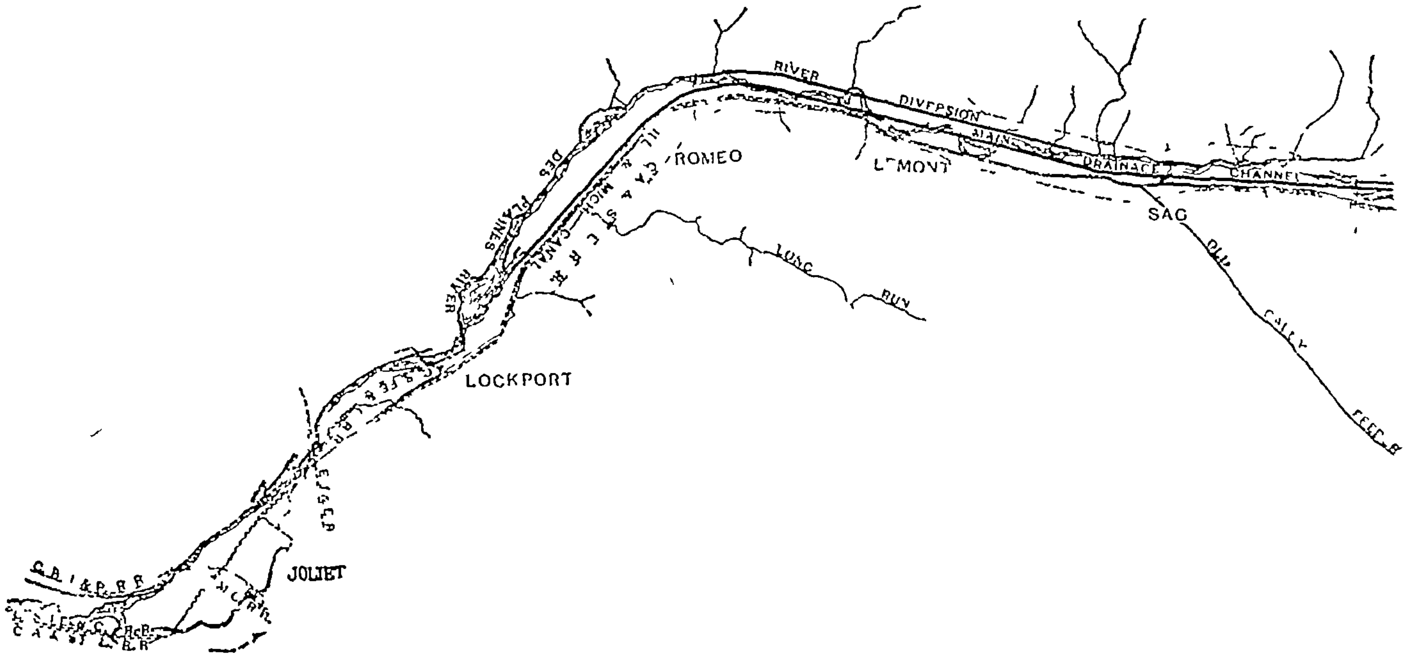
The estimated rock excavation on Sections 7 to 14, inclusive, gives a total of 8,189,152 cubic yards of rock in place This will expand into 14,333,333 cubic yards of broken stone on the sanitary right of way, at the very edge of an extensive water course This is an amount sufficient to build 3,257 miles of street, having a road bed 30 feet wide and using an average depth of 9 inches of broken stone It would build 12,217 miles of country road 12 feet wide and with an average depth of 6 inches, thirty one and one-half times the length of the State of Illinois, from Chicago to her antipodes, or, furnish the foundations and it would give a path 2 feet wide and 2 inches deep from Chicago to her lunar neighbor

Financially, it is more economic policy for the taxpayers of the sanitary district to place untainted and above suspicion, their magnificent source of potable water by one large outlay, than to keep themselves perpetually subject to expense in extending water supply tunnels and in the hopeless pumping of the Chicago River sewage into the Illinois and Michigan Canal, which stands a menace to health throughout its entire course, and of which it has been aptly said "It is frequently worse but never better"

Sanitation is a measure of civilization Advancement requires time Public opinion is called safe because it is conservative, but it is dangerously conservative in lines of advanced sanitation

It is not possible to give a money value to sorrow, to losses entailed by useless sickness and death, and to the increase of crime and pauperism always accompanying filth and squalor, or, to place a value upon increased longevity and good health—the working capital of both unskilled labor and of the leaders in thought and action But let us attempt to find a money value for a disease typical of polluted water and inferior sewage disposal From typhoid fever in the years 1890, 1891 and 1892, the State Board of Health reports an average of 1 18 deaths per 1000, and this dread disease has been almost an epidemic here during the past decade

Of typhoid fever, twenty-eight English cities give an average decrease, brought about by sanitary measures, of 39 per cent Likewise, Boston, Brooklyn and New York obtained a decrease of 41 5 per cent, and I believe that the workings of the main channel of the sanitary district will bring to Chicago the beneficial decrease of 50 per cent, but to be more conservative, place the decrease at 33⅓ per cent Assume a population of 1,500,000 and a reduction of the death rates of 1890 to 1892 by 33⅓ per cent and we have a saving of life from typhoid fever alone of 585 persons per year Assume only one-fifth of these to be bread winners, supporting the average family of five The city would save on this basis the support of 117 such families or 468 such persons, costing not less than $150 a year for five years This



moderate hypothesis results in an annual saving to the tax payers of $355,000 To this add a saving of $25 for each funeral involved, and the moderate fee of $10 for medical attendance for each of these 585 useless deaths, this gives the sum of $20,475 Assume ten cases of serious illness for each death, at an expense for medical attendance and enforced idleness of only $15 This adds to the sum $87,750 Thus the grand total saved per year by the reduction in typhoid fever alone is $463,225 This sum capitalized at 4 per cent per annum gives $11,500,000, nearly one-half of the total expenditure of the sanitary district of Chicago

The city of Chicago is located upon the bed of a comparatively recent swamp, and is specially subject to zymotic and enteric diseases, but her death rate *should be below* the normal on account of the continuous increment to her population of men, young, robust and ambitious

The increased resistive powers of the system, the increase in capacity for thought and work, in morality and independence, resulting from the causes that decrease a death rate, can not be measured by sordid money values But considered from the above standpoints, we can but feel and admire the wise and intense philanthropy which characterized so thoroughly the early promoters of the sanitary scheme Aside from sanitation, the national importance for warlike maneuvers, and the international commercial importance of such a watercourse to Chicago can not be passed by I quote from a brief by Mr Cooley

"Sitting at the pass of two continental valleys, a great waterway to the Atlantic, a great waterway to the Gulf, the center of a territory as resourceful as the world can show—her latent interest is awakening, she would restore the ancient outlet of the lakes, her thinking men are realizing that this old portage may become the Bosphorus of America, like the Constantinople of old, to possess which was to rule the world"

To the tourist the massive machinery, almost intelligent in its power, the proportions of the canal already excavated and the corresponding spoil banks attract, generally, the most attention, and are certainly worthy of more than a casual visit

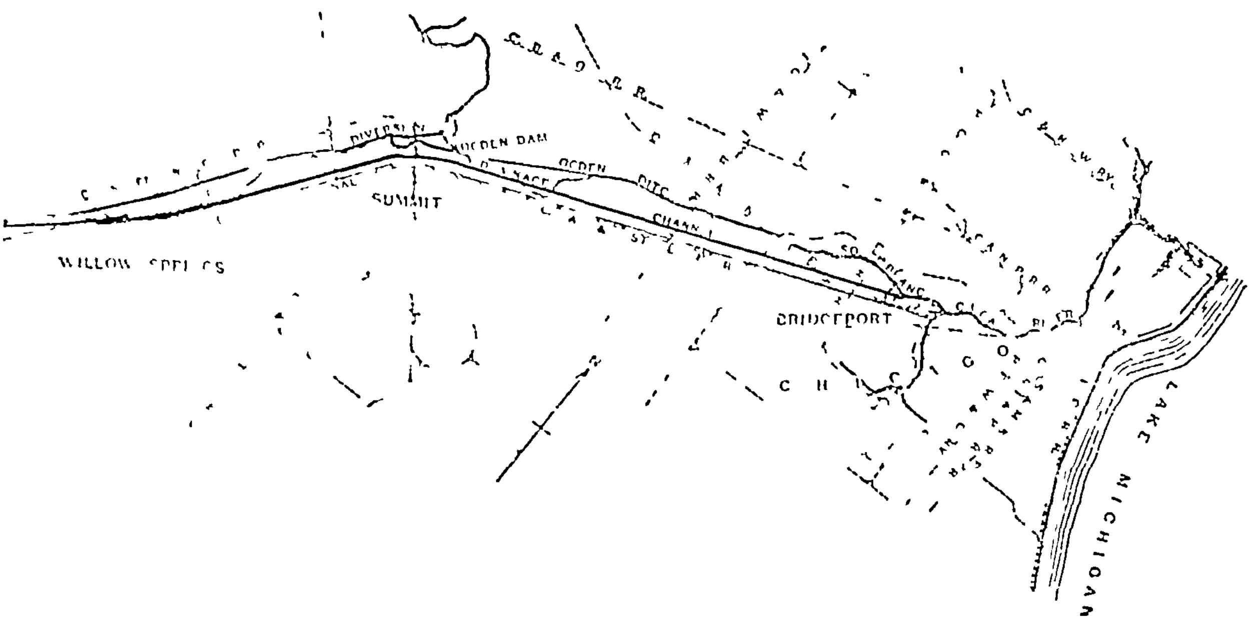
The huge dipper dredges on the two sections nearest the city, rapidly eat their own channel for floatation West of these are the inclines, the bridges spanning the spoil banks, the belt conveyors and the cantilever conveyors operated in connection with steam shovels All are movable parallel to the axis of the main channel, and are effective, ingenious and ponderous machines Next are found the hydraulic dredges on Sections A and B, east of Willow Springs. Here the soft, low-lying ground is agitated beneath the water surface and, by means of powerful pumps, it is discharged from pipes at the desired distance from the channel These sections will soon be unwatered, so that the hard underlying material may be excavated by steam shovels and other suitable machinery

It is doubtful whether the men now engaged on the western portion will ever again see a rock cutting of such magnitude Here are the cableways of 700 feet span, and the cantilevers which reach out 140 feet over the channel and 180 feet over the spoil bank

The not uncommon occurrence of a rock blast shattering and hurling perhaps four thousand tons of rock, and consuming nearly a half ton of dynamite, is an impressive spectacle To the geologist the present state of excavation affords an intensely interesting field He has an unparalleled opportunity to study the varied constituents and complete sections of glacial drift as it was left in the remote times, cutting its striæ and furrows in the underlying rock, and he will perhaps find the cutting boulder still in its abruptly ended furrow In the alluvial deposits, large antlers, Indian relics, buffalo and mastodon bones have been discovered

The vertical cuttings through solid rock present vivid object lessons in stratification faults and fissures, and the fossil hunter will be amply rewarded by finding nearly all the fossils characteristic of the Niagara limestone

When the channel is complete from the standpoint of the sanitary district, Chicago can successfully combat scourges and epidemics The Chicago River will become an outlet and will gradually purify itself and become a part of the network of lagoons joining the lake and the main channel through the north and south forks



Chicago is rapidly becoming the first city of the Occident In present achievements she has surpassed the wildest predictions of her founders But useless will be her command of commercial centers, of railways and water courses unless she listens to the too apparent warnings of her streets and rivers, provides for her millions those most lavish gifts of Nature—pure air and pure water—and the higher gifts of civilization pure social, moral and civic conditions

It behooves every patriotic citizen to be relentless and persistent in the instruction of the masses for the accomplishment of such ends, then will the city of Chicago stand majestically, the Queen of the Western World!

A SKIASCOPIC EYE

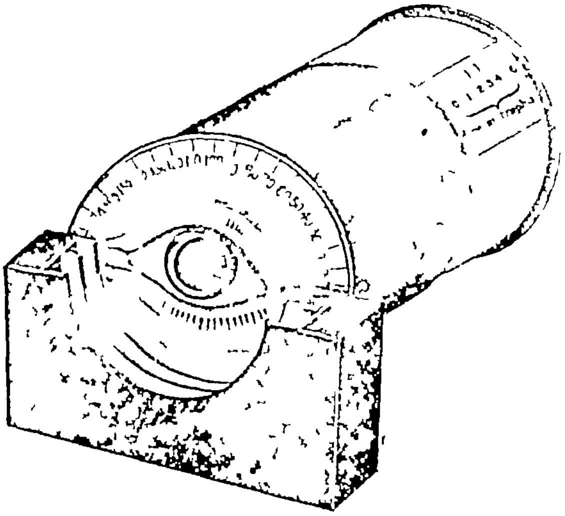
BY JAMES THORINGTON, M D

PHILADELPHIA, PA

The rapidly growing popularity of the shadow test as an accurate method of obtaining the exact refraction of an eye under the influence of a mydriatic, prompts the writer to present an inexpensive eye for the use of the student or oculist who may desire to learn skiascopy at his leisure

The eye as here shown, reduced one third in size, is made of two cylinders of cardboard, one slightly smaller than its fellow, to permit slipping evenly into the other Both cylinders are well blackened inside The smaller cylinder is closed at one end, and on its inner surface is placed a colored lithograph of the normal eye ground The larger cylinder is also closed at one end, except for a central round opening, ten millimeters in diameter, which is occupied by a + 20 diopter lens, and on its outer surface is a colored lithograph of the normal eye with its appendages, the pupil being dilated, and corresponds to the central opening just referred to In addition to this picture of the eye, there is also lithographed on the upper half of the periphery, the degree marks similar to those on a trial frame To the lower half of the periphery are secured four pieces of cardboard, making two interspaces for trial lenses, and being square at the base, gives the eye an even resting surface

On the side of the small cylinder is an index which records emmetropia, and the amount of myopia and hypermetropia according as it is pushed into or drawn out of the large cylinder To use this eye, it is only necessary to bear in mind the two rules of skiascopy, governing the use of the plane mirror at the working distance of one meter, namely, that the light reflex seen in the center of the pupil moves,



1, with the movement of the light on the face in emmetropia, hypermetropia and in myopia, if the latter is less than one diopter, and 2, against (or opposite to) the movement of the light on the face in myopia of more than one diopter If it is desired to study the band of light,[1] as seen in myopic or hypermetropic astigmatism, place the necessary cylinder from the trial set, in the back interspace, the degree marks assisting in finding the axis, and especially so if the axonometer is used

This eye answers admirably for the beginner in ophthalmology, though not originally so intended, and as here illustrated and described, is made by Messrs Queen & Co, of this city

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[1] Vide, Annals of Ophthalmology for January, 1895 "Thorington on Skiascopy"

THE SYSTEMIC FACTOR IN THE TREATMENT OF DENTAL CARIES

Read in the Section on Dental and Oral Surgery at the Forty fifth Annual Meeting of the American Medical Association, held at San Francisco June 5-8 1894

BY G S DEAN, M D

SAN FRANCISCO CAL

It is not only because of its novelty that I have chosen my subject I have chosen it, also, because it seems eminently a proper subject for presentation on an occasion like the present—an occasion whereon the practitioner of general medicine and the practitioner of dental medicine sit down together, to consider what they may do, jointly, for the welfare of mankind The time was, in the not-distant past, when these two practitioners were sadly ignorant of one another's territory But now the two have come together They have familiarized themselves with one another's country And now that they meet as allies in the cause of humanity, now that they are inquiring what they can do jointly for that cause to which their lives are devoted, it seems eminently proper to bring forward for discussion a subject which lies within the territory of both It seems fitting on this occasion, to bring forward for attention the systemic side of the treatment of the commonest of dental diseases—the commonest in fact, of all the physical ills with which mankind is afflicted That there is frequently (not always) a systemic factor in the etiology of dental caries, and that systemic treatment is often needed for the cure of this local affection, I shall endeavor to show This being shown, it will appear that the disease has an interest, a practical interest, for the general as well as for the special practitioner Hence it has seemed to me that, apart from other reasons, the subject which I have chosen has a peculiar appropriateness to the present occasion

Let me introduce the subject by presenting a case Let me do this, not merely because it is the proper way to introduce a new subject, not only because at the outset a single clear concrete presentation is worth a world of misty generalities, but let me do it also as a protest against the opposite course too often adopted and even defended by the presenters of new subjects, who, thoughtlessly, not having taken due note of the need of the human mind for concrete centers of knowledge, burden us with vague abstract or general statements without driving the initial nails on which these statements should be hung Case reports are usually considered little more than cumberers of the ground, to be avoided or eliminated, or employed only as idle gossip to fill waste space or kill waste time But this estimation can be due only to non-appreciation of the nature and the necessary conditions of human knowledge A report of a case may, certainly, be uninstructive, for it necessarily contains only what the reporter has seen, and he has perhaps not seen the items which are relevant But for the presentation of new truth vividly, convincingly, for the purpose of rendering truth graspable or assimilable, there is nothing which can take the place of contact with the facts With the assurance, then, that this method of presentation is right, and that the contrary method is wrong, I proceed to my narrative

A gentleman sought dental examination, occasionally, during some years, his teeth being always found free from caries At length, on the proximal faces of two of his teeth, cavities appeared

Examination of the saliva revealed nothing worthy of note, no known form of salivary abnormality was present We are not yet able to make satisfactory clinical salivary analyses Inquiry developed the fact that, while the patient was "well," there was perhaps a trifling gastric and quite certainly a slight intestinal indigestion Search for the cause of the disordered function, oral and intestinal, proved futile Fillings were inserted, and there was given such hygienic attention, general and local, as seemed possible in the absence of etiologic insight

About a year later, the filled teeth were found in good condition but three other inter-dental spaces, in different parts of the mouth, were bordered by decay At this time the general gastro-intestinal error, though not great, was sufficiently pronounced to be noticeable, and it was accompanied by rather frequent attacks of diarrhea, serous in character, sometimes supervening on exertion, at other times appearing without perceptible exciting cause The patient, I thought, looked more pale and dull than before He said that, though 'well," he "felt somewhat run down"

Let me pause to set forth explicitly the salient general features of the case as they then appeared to me—there being no cognizable local abnormalities Though there may have been periods of mucous inflammation, yet on the whole it may be said that whatever evil existed was beyond the reach of the dissecting knife, in other words, there was no apparent structural error, the troubles were purely functional The failure of function was twofold general and local, there was systemic atony or asthenia, and there was disorder of the intestinal tract, the digestive disorder being, I may add for explicitness, extended as distinguished from localized, and simple or apeptic as distinguished from complex or parapeptic The relation between the local and the systemic derangement was beyond my view I desired on this point (as I had done the year before) an expression of opinion from gentlemen more capable than myself of forming a judgment, but, failing to obtain it, remained in darkness I probably accepted tacitly the hypothesis usual in such cases, namely, that the general asthenia was due to the digestive error

The etiology of the predisposition to dental caries was, then, beyond my view The dental disease seemed incapable of actual remedy, capable only of retardation by persistent or repeated local attention The progress of the destruction of the teeth was again checked by filling the cavities, and the patient was brought to an active resolve to care locally for his own teeth (in the sense of keeping them clean) the moving cause being a realization by him of the fact that the predisponent of the dental caries was undiscoverable and therefore irremediable, and that therefore, to prevent destruction of the teeth, the effects of the predisposition must be met by local measures

In a few weeks he re-appeared, complaining of oral and pharyngeal inflammation Examination showed his disease to be amygdalitis purulenta—"quinsy" It terminated in suppuration, its character being thus conclusively established Believing that suppurative amygdalitis is usually due to ærial poisoning, I determined to investigate more minutely than I had previously done the man's ærial surroundings, with some hope that I might thus reach the cause of his dental caries But my investigation showed nothing It was brief and eminently unsatisfactory I ascertained that he had been living in and frequenting the same buildings during somewhat more than the period of his dental decay, but I found that his quinsy had supervened on an absence from home of a month's duration, and had appeared three or four days after his return Apparently, then, since he had inhabited the same localities so long without quinsy, this disease had been contracted during his absence

The synchronism of his habitation of his present abode and the caries of his teeth seemed suspicious, but inquiry, made on his presentation of dental caries and now repeated, showed that the house was apparently healthful, that it had in fact, every apparent advantage and seemed above suspicion The synchronism was therefore set down as a chance coincidence, and the problem of the dental caries was no nearer solution than before

A few months elapsed, and the patient appeared again, suffering a second time with quinsy The tonsillar abscess being evacuated his case came up for consideration

I hold as I have said, that purulent amygdalitis is caused by aerial poisoning I published some years ago, and justified by evidence fulfilling every logical requirement, the following theses 1, suppurative amygdalitis is not in any way related to or dependent on mucous or catarrhal inflammation, it is a disease *sui generis* 2, the predisponent of purulent amygdalitis is neither "plethora" "debility," nor "a previous attack" it is the functional activity of the tonsil glands 3 the excitant of purulent amygdalitis is never "cold" it is always poison contained in the air inhaled (possibly to include the suppurative amygdalitis which sometimes complicates scarlatina, I should add "or exhaled")

Holding this belief and holding it not as an unproved hypothesis but as a theory established beyond reasonable doubt I inquired concerning the patient's exposure to poison bearing air Where had he been? What had he been doing? Not the smallest light could be obtained from his answers He had indeed again visited the country But he had avoided the house in which he had stopped during his previous absence from town had not even been in the same region And the visit to the country in itself, could not be accepted as the cause of the amygdalitis, especially as he had frequently gone to the country in former years, and had never had the disease

At length there was found a single similarity in the antecedents of his two attacks of tonsillar inflammation Each had been preceded by an absence from his domicile for some weeks and a return home This one thing the return home, was clearly shown by further inquiry to be that sole common antecedent which must be regarded as the cause The quinsy poison was then in the house which the man had inhabited for years Yet during these years he had had no quinsy How was this It was explainable by the fact that, while he was at home his rooms were always well ventilated, whereas during his absence they were tightly closed and he had on both occasions returned at night and had slept on the infected pillows in the confined air of a month (Have we not here by the way an explanation of the fact that purulent amygdalitis is more prevalent in winter, when houses are shut than in summer, when they are open?)

The first etiologic insight being obtained, the view expanded rapidly The patient was now, in spite of his quinsy, bright or vivacious Though unable to talk before the evacuation of the pus he said in writing that he "felt well," was "hungry," and that, while it hurt him to swallow, he got down "lots of milk and oysters" Sharply in contrast with this was his condition during his first attack Then he had been "sick," dull, drooping he had had no appetite swallowing a little soup or gruel occasionally with reluctance, he had been, in a word prostrated mentally and physically Equally marked was the contrast in recovery Now when the pus escaped, he was "well" that is, without any great amount of felt indisposition, before, for days after evacuation he had been "sick," and had remained "indisposed" for weeks, not, certainly, confined to bed, but markedly prostrated

What was the cause of the difference in the accompaniments of the two attacks? In both there was approximately the same amygdalitis and pus formation The inflammation produced, in both cases, systemic disturbance But, since the inflammation was approximately the same in both cases, there was quite certainly something else which intensified the systemic symptoms of the first attack Eliminating, then, the similarities of circumstance of the two attacks, I sought the difference of circumstance The only marked difference found lay in the place where the disease was incubated and endured The first or prostrating attack came on after the patient had been at home three or four days, and was endured at home The second or non-prostrating attack came on and was endured away from home (the patient having gone home after a month's absence, remained one day, and departed again) The prostration of the first attack was then quite certainly due, like the quinsy itself, to the house in which the patient lived

The problem was solved The etiology of the dental caries was at once transparent The man had slept in a quinsy house, hence his quinsy The atmosphere of the house (more strictly, of the rooms which he occupied) produced not only quinsy, but also general prostration, hence, in my judgment, the excessive "sickness" which accompanied the first attack Did the cause which produced prostration when the man was ill also produce it, less conspicuously but no less really, when he was "well?" In other words, was the foul air of his domicile the cause of his atonic condition, and did this in turn produce his long continued digestive indisposition? I answered, with confidence, yes

The step to the causation of his dental caries was easy All dentists, probably, hold that the etiology of dental caries extends beyond the field of the microscope All, necessarily, regard the saliva as a factor in the problem of dental decay The evidence of an "epidemic constitution of the atmosphere" is as nothing in comparison with the evidence of an epidemic constitution of the saliva How the saliva acts is an unsettled question It is not even settled whether the saliva is, as to the teeth, a destructive or a protective fluid Some dentists, not having seen any clinical evidence to the contrary, hold that acid saliva favors solution of the calcium salts of the teeth, and that alkalin saliva protects the teeth by neutralizing decay-producing acid Others hold, with Dr Black, the more elaborate hypothesis that normal saliva is protective, and that it acts germicidally, or, perhaps more properly, that this saliva modifies microbic life, diminishing the microbic secretion or so changing its character as to render it harmless Others, with Dr Palmer, regard the saliva as decay-producing, by reason of its being an electropoion fluid of greater or less power Others, perhaps, without denying that there may be other features of salivary preservative or erosive action, believe that, the saliva being essentially protective to the teeth, one of its main prophylactic functions as regards dental caries is to dissolve and wash away such matter as tends to undergo acid fermentation—in a word, to cleanse the teeth But whatever the hypothesis as to the mode of action, the fact, if not of salivary preservation of the teeth from caries, at least of the dependence of dental caries on the state or character of the saliva, must be universally admitted—if not explicitly declared, then implicitly held It follows plainly that any state of the system in which the oral digestion or salivary function is impaired, is a state predisposing to dental caries And, since the prostration of our patient impaired the gastro-intestinal digestion, I considered it reasonably certain that it impaired also the oral digestion—that it gave rise to saliva deficient in caries-preventing power

Feeling satisfied now that I understood the case, if not in all its details, at least sufficiently for practical purposes, I felt myself in a position to endeavor to effect the radical cure which was the patient's great desire My remedial measure will be evident without statement It was, as the patient was only a lodger, an immediate change of domicile

The sequel showed that my advice was probably correct The man left the haunted house and remained under my eye for fully three years His improvement in tone, in the feeling of "general health," was noted by himself, and the improvement in his appearance, though not very marked, was perceptible The general digestive difficulty, I think, disappeared, it certainly diminished, for it ceased to be noticeable But what was of special interest to me and is of special interest in the present connection, was the improvement in the oral digestion, the fact that though the patient became comparatively lax in the local hygienic care of his teeth, he ceased to suffer from dental caries It is true that two (I think three) cavities of decay were found in his teeth shortly after his change of residence, but these cavities were residual to the period of decay, and they were not followed by others appearing year after year In a word, after removal from the poisoned house, the man became, as he had been before his sojourn in it, "proof against dental microbes"

Such are the facts of the case as far as I saw them I sought to extend or supplement them by a more minute inquiry into the aerial conditions which produced the atony—the incipient cachexia But my supplemental facts proved meager The unhealthy house was a comparatively modern structure, with large rooms, plenty of sunlight and good ventilation, it was, in fact, as I have already stated, prepossessing The rooms occupied by the patient were a handsome suite in the second story The only elegance lacking in them was that which, if it had been present, might have been blamed as the source of "sewer gas"—the stationary washstand There was, indeed, no apparent connection with any sewer, nor was there, at first glance, any apparent source of quinsy-poison The source of this poison was not, however, very difficult to find Not only did green or rot-inviting lumber appear to have been used in the construction of the building, but the apartments of our patient were directly over a room and cellar in which usually provisions and sometimes articles not free from decomposition were kept, and the apartments communicated sufficiently with the lower rooms to allow air to pass The patient's apartments were always "close," and "smelled badly" after being shut up for a time The quinsy, then, was readily accounted for, a month's concentration gave a large stock of putrefactive germs But the prostration, and its consequence, the oral indigestion? Was it due to the same poison, acting in small quantity for a long time? Or was it due to some gaseous accompaniment of the poison which produced the purulent amygdalitis—some chemic accompaniment of the physical poison? I hold the latter hypothesis because of familiarity with the effects of chemic poisons on tissues and consequently on organisms, plant and animal, but confess that I do not know It may possibly have been due to something which had no connection with the amygdalitis, *e g*, to a leak of illuminating gas, whose depressing effect on the human organism may be seen by inspecting the workmen in almost any gas factory, but this supposition, infracting Occam's caution, "*Entia non sunt multiplicanda praeter necessitatem*," is rendered highly improbable by the fact that the systemic prostration accompanying purulent amygdalitis is usually very great, usually exceeds what one would expect the abscess (which constitutes the disease) to produce

I have now laid a foundation for a statement of generalities I have reported a case wherein, if my interpretation is correct, dental caries was caused by systemic error and was cured by systemic treatment But before proceeding to state generalities, and to make, finally, the plea which I propose to make for a more intimate working together of the general and the dental practitioner, it will be well to clinch one nail which I have driven It will be well, especially since the presentation of the nature and the clinical origin of purulent amygdalitis is so recent that it has probably not yet received general consideration, to justify by the facts of this case itself, as far as these facts go, my immediate certainty, on finding purulent amygdalitis, that the patient had been breathing foul air

The facts are these Before lodging in the house herein referred to, he had returned to San Francisco several times and had never had quinsy, while lodging in this house he returned twice (and only twice), and had the disease both times Confirmation is furnished by the supplemental fact that, after abandoning this house, he returned to San Francisco three times at least (probably more), and did not have quinsy at any time Clearly, then, the cause of the quinsy was not San Francisco, it was the house, in other words, it was not cold, it was poison in the air

While I am speaking parenthetically, it may not be amiss to make another digressive remark, to call attention to the difference in the period of incubation of the two attacks of amygdalitis in the case reported The first attack appeared probably three days and certainly not more than four days after exposure, the second attack did not present its initial symptoms till at least the fifth and perhaps the sixth day The reason of this difference in time of incubation, though it seems fairly plain, as it has no relation to my present subject, I can not here discuss, I merely note the fact in passing, because it is seldom that we have an opportunity of observing two different periods of incubation of the same disease in the same individual at the same time of life

Returning now to our subject we are ready for generalities First, I may state that dental caries is not usually idiopathic In this disease the general is not dependent on the local, it is the local which is dependent on the general We speak of "frail teeth" as "prone to decay," or, more flatly, say that teeth decay because of their frailty But when we speak thus we do not, or at least should not, mean literally what we say If the salivary function (which is directly dependent on the general or systemic condition) is normal, the teeth, however frail, are safe from caries And, contrariwise, the strongest teeth, though more resistant than frail teeth, will, under adverse systemic conditions, succumb to decay

Next let me, as well as I can in a brief space, discriminate between idiopathic and systemic or symptomatic dental caries Generally, I may say that cavities of decay on the morsal aspect of a denture are not to be considered as of systemic origin To this rule, however, the exceptions are exceedingly numerous, they are based on this consideration Rapid decay on any aspect of a denture, is to be regarded as due to systemic disturbance Generally, again, it may be said (the exceptions are few) that decay on the proximal or buccal aspects of the teeth is symptomatic or of systemic origin, and calls for something more than local treatment It is true that we sometimes find cases in which we can feel reasonably certain that there is a direct salivary defect cases of idiopathic salivary deficiency But such cases are so rare as to throw the presumption on the other side We may safely say, then, that proximal decay is to be generally regarded as a result of distant disorder or systemic depression

Let me repeat here, to avoid possible misinterpretation and incidentally to be more explicit

1 Dental caries is commonly due to fermentation of food and occurs only where food lodges or remains for a sufficient length of time to undergo fermentation, it occurs, that is, only where there are lodging places for food, *i e*, on the proximal faces of teeth which stand close together, on the buccal faces where the gum forms a pocket for the retention of food, and on any face where deep sulci, pits or fissures hold food till it undergoes fermentation Those exposed or smooth surfaces of teeth where food can not lodge are always free from decay

2 Normal saliva prevents dental caries, either by preventing decay-producing fermentation, or by overcoming the effects of this fermentation It is in fact preventive of this fermentation or its results to a greater extent than one would, *a priori*, think possible The saliva has scanty access to interdental spaces more or less filled with food, yet, in spite of uncleanly habits, normal saliva prevents proximal decay The saliva can scarcely reach the filth covered cervico-buccal portion of the teeth of the uncleanly, yet the dirtiest teeth are often free from buccal caries Again, fissures and pits penetrating the enamel would be expected invariably to become seats of decay, but where the saliva is normal such fissures and pits are usually innocuous, they do not, in health, become centers of caries

3 Anatomic (*i e*, macroscopic) faults of the teeth, such as pits and fissures and errors of location, such as over-lapping, are sometimes so great as to lead to decay in spite of normal saliva Decay due wholly to this cause is, however, rare except in teeth which, besides having the gross defects mentioned, are microscopically (histologically) defective, so called "frail" or "soft" teeth—teeth wherein the mineral matter is lacking in solidity of structure, either as a whole or in spots, or, as may be the case, both as a whole and in spots, and even in teeth which are decidedly frail, pits and fissures of moderate size and depth, and irregularities of moderate extent, are, with normal saliva, innocuous

4 "Frailty" or histologic defect of the dental tissues, even to the extent of what might not improperly be called idiocy of dental structure, rarely if ever produces idiopathic dental caries

5 Decay-producing error of saliva is undoubtedly sometimes idiopathic We find differences in the saliva of different persons, both in quantity and in quality under circumstances which render us reasonably confident that they are not due to what we may for brevity, call systemic disturbing causes

6 Idiopathic dental caries is relatively rare The presumption is therefore always that the disease is secondary or symptomatic The least attentive observer will see that it is symptomatic when, after many years of complete dental soundness, suddenly every fissure becomes a seat of caries, while the disease at the same time attacks the proximal faces of the teeth in many places From cases like this we may descend step by step to those wherein the most observant can not assert with confidence the nature of the disease The pathognomonic signs of symptomatic dental caries may be stated as follows *a*, its residue is "moist" or "leathery" in character, *b*, it is rapid in its progress, *c*, cavities are found to have originated simultaneously in different parts of the mouth The severity of the systemic disturbing causes may be determined by noting which faces of the teeth are attacked If the systemic cause is mild the decay will be confined to the fissured morsal surfaces, or will at most attack the buccal pits of the molars If the systemic cause is pronounced, the proximal faces of the teeth will be attacked, perhaps also the buccal faces close to the gum margin

7 Beyond symptomatic dental caries, using the term in its strictest sense, there is usually, after removal of the ultimate cause, some further decay of the teeth—what may not improperly be called residual decay This is a phenomenon which we might perhaps have anticipated, *a priori*, for (apart from the probability that incipient dental caries is sometimes overlooked, to be discovered in an examination at a later date) a return of deranged salivary function to complete normality might be assumed to take time, even after full removal of the cause of the derangement, but as a fact I never thought of it till I observed it in practice, when it occurred to me, first, that I had seen it in other cases without noticing it, and then that it was a natural thing to expect

I do not know that this residual decay has been noticed or commented on by others and therefore speak of it only from my own experience It has appeared to me, in cases wherein I have felt able to fix the date of removal of the fundamental cause, that there was a period of some months, possibly a year or more, wherein dental caries continued to appear, though with diminished severity The disease seemed to subside, as a rule, gradually, not instantaneously I think it well to make a note of this both for confirmation or disproof by others, and also because residual decay if one did not expect it might prove misleading

Having discriminated between idiopathic and symptomic dental caries, it remains to ask on what other diseases or on what fundamental causes the symptomatic dental disease depends Primarily, symptomatic dental caries is plainly due to disorder of the oral digestion, fault of the fluids of the mouth Unfortunately, having said this, we have almost reached the limit of present knowledge The sources of oral apepsia are incapable at present of being pointed out with even an approach to definiteness We naturally first look to the other portions of the digestive tube as theoretically likely to be the over-shadowing source, by extension of derangement, of oral mal-function But, clinically, we find in many cases that gastric or intestinal disorder is not accompanied by decay of the teeth The oral function does not seem to sympathize universally with that of the lower portion of the digestive tract Gastric or gastro-intestinal error (atonic dyspepsia particularly) does indeed frequently accompany the oral error, but it is probably only a joint result of a common cause In a word, we do not find any one great or especially probable source of salivary derangement We find merely that dental caries seems to spring from the most diverse causes with equal readiness, in fact, from almost anything which appears likely to diminish the vigor of the ultimate cells or to drain or to enfeeble any portion of the organism

This general statement, vague as it is, presents nearly all our present knowledge on the subject of the fundamental etiology of the disease A little definiteness may be given to the statement of causation, but only a little We can say, cautiously, that with our present limited clinical knowledge, in male subjects not suffering from any evident organic defect, lack of good air and exercise seems the first subject of suspicion, the most probable cause We can say that, secondarily, in these subjects, our limited experience would lead us to look to the nitrogenous diet as a fairly probable cause For the avoidance of possible misinterpretation, I must explain that while it is the carbohydrates which, by fermentation in the mouth, directly yield the (acid) agent, which, corroding the teeth, produces dental caries, and while therefore a strictly nitrogenous diet could probably not cause dental decay because it would be devoid of acid forming material, on the other hand, the proteids, when ingested in large quantity by persons of sedentary habits, seem to give rise, probably through their effects on the greater glands, to decay-producing error of the salivary secretion, in other words an ill-advised largely-nitrogenous diet may and apparently does produce an oral or salivary condition favorable to that fermentation of carbohydrates which causes caries of the teeth

In young men our observation would lead us to say that, even where it does not produce perceptible gastro-intestinal error, irregularity of life (sexual excess particularly) should be first suspected, it being a common, if not the most probable, cause of dental caries In the female subject, the "organism round the uterus," the center of the organism appears to be the most suspicious point Experience has shown that, not only pregnancy but also almost everything amiss in the female generative system, is accompanied or followed by dental decay Caries of the teeth comes on so frequently between puberty and the menopause, ceasing when the cervical canal is rendered patulous or some other change for the better is wrought at the center of the organism, that we are amply warranted in first suspecting, in females, that the cause of our dental disease is a generative trouble

But having said all this, we who are practicing dentistry must confess ignorance—ignorance on the one hand and inability to act satisfactorily (by reason of the burdens imposed on us by the necessary local treatment) on the other We find that we can not yet say with certainty that any given general cause will always produce, or that any given pathologic condition will be always accompanied by caries of the teeth We find (to take an actual case) the same person suffering at three different periods with gastric or intestinal dyspepsia or both, the first and the third attack were accompanied by dental caries (which ceased with the disappearance of the gastro-intestinal difficulty), the second attack, though it continued for two or three years at least, was not at any time accompanied by caries of the teeth We find ourselves, in a word, when we come to the fundamental etiology and therefore to the radical treatment of dental caries, unable to answer any but the simplest questions, to solve any but the simplest problems, to cure any but the simplest cases We are able, certainly, sometimes, to see through a case of dental caries almost at a glance, and are able occasionally to point with ease the way to positive cure. But the cases wherein the cause of dental caries is obscure outnumber those wherein it is easily discernible The one which I have reported for the sake of illustration may be taken as a sample of those which we daily encounter, and in cases like this, in the diagnosis of the fundamental difficulty, we who are practicing dentistry usually need assistance Again, when the cause of the dental disease is readily perceptible, we usually need the aid of the general practitioner in its removal

It is idle to say that he who undertakes to treat a disease should go to the bottom As a practical fact, the dental practitioner, however thorough his understanding of the nature and the treatment of disease in general and of those extra-dental pathologic conditions with which dental diseases are connected in particular, finds that the burden of attention to local manifestations is usually all that he can bear, he must practically, as a rule, refer his patient for the radical cure of a dental difficulty dependent on a general cause, to some one else, perhaps to the special practitioner in some distant field, but usually to the general practitioner Hitherto, owing to inattention on the part of the general practitioner to the matter which forms the subject of this paper, the reference has been made by the dentist with comparative infrequency, and when made has not always received attention In the future it is to be hoped that it will be made more frequently, and that it will meet with a more general and a more thorough response We who are practicing dentistry are not content to merely temporize And if we were content to do no more than, locally, to "meet indications," our patients would not always contentedly acquiesce, for they are, some of the more intelligent at least, awaking to the fact that dental caries has more than a local meaning, and, in the interest of their general as well as of their local welfare, they are beginning to desire not merely treatment of symptoms, but cure This, the actual cure of dental caries, we are as a rule unable to effect alone We need the aid of those who are practicing in the general field My aim, in this paper, has been to show that this aid can be frequently effective And I close with an appeal for the assistance which will accomplish the end, an appeal like that of the man in the vision to the apostle "Come over into Macedonia and help us!"

DISCUSSION

DR DUNBAR—The etiology of caries of the teeth is difficult to discuss, and I am quite ready to accept the views of the essay as to systemic influences as a general cause of decay Original defective development of the tooth, Dr Dean touched upon as one of the principal predisposing causes of decay There is no question that it is an acid in some form mysteriously supplied which causes the first breach, and people moving into malarial districts are liable to many conditions which develop into loss of teeth I heard many years ago a prominent dentist, who lived in a miasmatic district, declare that he could not save pulps when they were once diseased So, also, the references to quinsy poisoning are certainly verified in this malarial environment There is no question that we are on the right track for the discovery of the mysterious acid which makes the first breach in sound teeth and opens the way for decay We are on the verge of an important discovery to add to and supplement those of Miller, of Berlin

DR DEAN—I present here two teeth for inspection, and I would like an opinion as to whether the trouble with them is decay or erosion The history is this The teeth are baby teeth The child during its second summer was very much troubled with digestive difficulties—it is not fashionable to think there is any connection between such difficulties at this time and teething The four central incisors above and below were present but no other teeth The upper ones presented on the points when erupted what I thought was caries Now I want to know what it is The cavities approached to pulp so close that I could not attempt to fill The four cuspids presented some appearance of erupting I lanced over the two which were nearest to eruption but it did not check the diarrhea Then I cut for the others and within twenty four hours the digestive difficulty improved and within a week the child had entirely recovered

Dr J A Tracy San Francisco—I would ask Dr Dean why lancing was resorted to?

Dr Dean—My belief was that the digestive difficulties were due to nervous reflex by pressure of the gum on the advancing tooth that pressure being reflected on the papilla underneath I lanced for the purpose of relieving the tension

Dr Talbot—I have had it in mind to write the same sort of a paper as this of Dr Dean's for five or six years We are indebted to Miller for the establishment of the relation of bacteria to the causes of caries, but we have to go outside of dental practice to find the causes of decay I don't think the writer of the paper meant to say that the poisonous air in the home of the patient acted directly but that it produced a neurosis which caused the lesions with which he was troubled Neuroses eruptive fevers, cause mal development of the teeth and bones It is a fact that these troubles are due to lack of tonicity in the nervous system, as is nicely demonstrated in the case of the *pregnant female*, whose loss of teeth is due not to a lack of lime salts in her food, but to the lack of tonicity in her nervous system which prevents their proper assimilation It is to this cause we have to look for many of the troubles which we as dentists are called on to combat

Dr Dunbar—It has often been said that we as a race are going to lose our teeth, that we as Americans are most prone to diseases of the teeth Those who make these assertions cite old country districts and say they don't have these things there It has been said that the cause of the difference is our American environment our climate, the mixture of races, etc They forget in enumerating the causes of the state of affairs they describe, the circumstances under which our forefathers took up their residence here Almost universally they had plenty of hard work to do and they raised large families, for which the mothers did all the work Isn't it possible that a broken down mother may transmit to the tenth or the twelfth child especially if it is a female, her own exhausted nervous system and that that is in some cases at least the secret of the poor American teeth?" Then our American haste our constant rush for money, make us nervous and we can t transmit under such circumstances, an unimpaired nervous system to our children On the other side, they are more contented with their lot, here we are dissatisfied with our income and always trying to increase it We are a neurotic people and we are begetting neurotic children More of the difficulties against which we have to contend are due to this cause than is generally understood

Dr A C Hart, San Francisco—My father had good teeth, my mother poor ones I have my father's denture He had but one lateral incisor, I have none, but my other teeth are like his in form and quality My brother has teeth like our mother, of poor structure, and decay progresses among them in the same way as in hers My preceptor taught me if I found decay on one side of the mouth, to look for it in the same teeth on the other side, but while this is a good rule it does not hold in all cases I confess I am puzzled to account for many things, and I have to refer them to a principle which I call *life force* For instance, why is it that there are only boys born in one family and why all girls in another? I have reached the conclusion that when the man is stronger the child is apt to be a boy, when the woman is stronger, the child is generally a girl Whichever of the parents is stronger makes the impression on the embryo which determines its sex There are many things in which if we change the environments we change the results

Dr Talbot—Two points have been referred to by Dr Dunbar and Dr Hart upon which I want to say a word Dr Dunbar said there was more decay and more deformity of the teeth here than in Europe If you take the class of people in Europe who can be fairly compared with the people here, their teeth do decay as much as here, and deformities are more prevalent and more marked there, especially among the aristocracy I have just read a paper before the Neurological Section of the Association on this subject The Spanish people have the most difficulty from the neuroses which produce deformities among the aristocracy of Europe Dr Hart brought up the point of heredity, but it is not quite fair to give a conclusion on one case only The tenth child may be the best of all Heredity works both ways

Dr Lundborg, San Francisco—I differ from Dr Talbot as to the condition of the teeth of the aristocracy of Europe, especially as to the part where I came from, Sweden, as I am sure they have good teeth

Dr Talbot—Do they not have a great deal of decay and many deformities?

Dr Lundborg—Not more so than here There is no other nation of Europe where the teeth are in a more excellent condition, both in the aristocracy and the mediocracy This is attributable to their mode of living Their food is not so generous as here The caries and defective teeth of Europe may be traced to gestation You may find good teeth among people who live luxuriously, if the mothers take exercise and live on nourishing food I don't think you can fairly say that the people of Europe have as bad teeth as the people have here

Dr Dean—I have asked a question as to abscess unconnected with the gingival margin I understood Dr Younger to say that there is always some opening to or connection with the margin I would like to ask if any one has seen a calculus unconnected with the gingival margin? (Receiving no reply, Dr Dean said that he had specimens which seemed to be of that nature)

THE DISEASE OF INEBRIETY

ITS STUDY FROM THE STANDPOINT OF THE EXPERIENCE OF AMERICAN PHYSICIANS OF EMINENCE WHO HAVE WORKED IN THIS FIELD OF RESEARCH

BY EDWARD C MANN, M D

NEW YORK CITY

(*Continued from page 855*)

SPREEING AND TIPPLING

A not uncommon form of the tendency to inebriety is manifested, especially in young men in whom the propensity is not fully developed This consists in the practice of occasional "spreeing," as it is sometimes termed This forms one of the earliest stages of the habit or attack, and may be properly termed the formative stage It makes its appearance on occasions of rejoicing, at festivals and celebrations, on Fourth of July and during the holidays At other times the propensity is dormant, and the individual is in no way affected by it There is a feature in this malady, which may be properly noted in this place, and that is that in the advanced stages of the disease nothing satisfies but complete intoxication So completely is the system under the influence of the morbid propensity, that the desire to get drunk is irresistible No lesser degree of exhilaration or excitement answers—nothing but total obliviousness satisfies the craving propensity

Inebriety makes its appearance as other diseases make theirs, sometimes by the fault of the individual attacked and at other times from causes over which he has no control The propensity is quite often hereditary, and transmitted from one generation to another, in accordance with the same law by which any constitutional taint, like scrofula or tubercular disease is handed down The law of development which, from the germ, fashions and matures an individual, and by which it is made to resemble its prototype or parents, will also in due time bring forth the defects which may have existed in a previous generation The fact is a familiar one, that children resemble their parents to a certain extent in mental characteristics, disposition, peculiarity of constitution, temperament and form They are, however, not born with all these characteristics present, but as the child is developed into the man they, one after the other, make their appearance With the development of consumption under this law we are all familiar The child is born with a tuberculous taint During the years of its childhood it may be well and sprightly, keep pace in growth with the most robust, but in the course of its development it reaches a point where its prototype fell into decay and died This individual will do the same A tendency to drunkenness will be developed under the same general law The child will give the fairest promise, its youth will be one of innocence uncontaminated by evil influences, and the first years of manhood will be free from spot or blemish, but the critical period arrives and suddenly like a fatal cancer there is developed this morbid propensity The man becomes changed, his appetites are aroused, his whole nature undergoes a transformation, and the prospect of his early years is blasted by drunkenness No condition in life is exempt from such instances We meet them everywhere, in the pulpit, on the bench, at the bar, in the church and among "all sorts and conditions of men" The period in life at which the propensity to drink is developed varies in different individuals In some it appears in early youth, in others in the first years of manhood The great number of young men addicted to the intemperate use of ardent spirits, who are to be found in our large cities and principal towns are examples of this class Cases also occur where late in life the propensity first makes its appearance Other forms of drunkenness are apparently brought on by disturbances or by great excitation of the emotional nature, or by the depressing passions, especially by grief, disappointment, mortification, shame, or loss of property, etc In many cases the exultation following the accomplishment of some successful undertaking excites a paroxysm of inebriety I have been led to believe that this form of emotional excitement is more frequently the immediate cause of an attack than those disturbances attended by depression of mind The rapid accession to fortune, political distinction, success in any enterprise are very often the precursors and excitants to a course of inebriety

The practice of tippling has heretofore been regarded not only as the ordinary but the sole cause of the development of inebriety In fact, every case formerly was attributed to this practice Under this view the individual was looked upon as voluntarily entering upon a habit which was sure to bring upon him a drunkard's fate This practice has consequently been denounced as criminal, and the drinker been subjected to the severest reprobation The courts have held that the delirium of intoxication was no excuse for violence or crime of any kind, for the condition was brought on by the voluntary act of the individual himself It must be evident, however, that this practice is but the first manifestation of the morbid propensity, and is as much a part of methomania as is the subsequent continuous or inveterate stage The inclination to tipple, whenever occurring, should consequently be regarded with alarm, as indicating the approach of a most serious and grave disease Measures to arrest its advance should at once be employed, as any sanitary precautions are taken to prevent the approach of yellow fever or cholera It is in this stage that recovery is most likely to take place, for the disease is then only in process of formation and it is more easily thrown off The will then has not become weakened or overpowered and the recuperative energies of the system have not been impaired

In that form of inebriety which has been attributed to the influence of emotional disturbances, it may likewise be doubted whether these influences are the direct cause of the paroxysms, they only operate as exciting causes, and by their influence upon an organization already predisposed, weaken the power of resistance, and give favorable opportunity for the development of the disease We have all seen individuals drawn into the vortex and swept away under disturbances of the emotions and passions, and this is no more strange than that the same causes should, in others, disorder the intellect, destroy its balance and overwhelm its faculties, occurrences which I believe are not uncommon Do not both these conditions equally claim our sympathy and benevolent exertions? Is one *wicked* while the other is properly regarded as *unfortunate?* In all of these cases, both of methomania and insanity, we mut recognize a previous predisposition to the attack The fact that many undergo all these emotional disturbances and excitement without developing either drunkenness or derangement of mind, is conclusive that they alone are insufficient There is a previous susceptibility to these attacks which must be regarded as unsound and morbid

It may be remarked as to the effects of this disease upon the character of the individual, and its influnce upon the moral and affective faculties, without reference to any consequent organic lesions or functional derangement, that the tendency of the practice of drinking is to obscure and destroy all the higher and nobler impulses of human nature and in prolonged cases, where the disease has wrought out its full effects, the subject of it may become completely debased and lost Under every circumstance the effects of alcoholic indulgence are dire enough, as we all must admit, yet I believe that we have been accustomed to regard the drunkard as lost, too soon He is not always, in fact, I believe that he will rarely be found to have become utterly abandoned I do not believe that, even in the worst cases of inebriety, one's manhood is entirely obliterated It is often completely overborne by the power of that terrible propensity to drink, so that no signs of its existence are put forth, but give it the opportunity, let an opening once be made in the prison house in which it is incarcerated, and the soul and the higher instincts of the man would spring forth once more, like a bird escaped from its cage, to enjoy again their freedom and a new life

The whole subject is one of engrossing interest Upon the medical profession will devolve the duty of treating the subject in the light of true science, in the hope and belief that, as variola has been or can be rendered harmless by vaccination, so the proper employment of remedial measures may exterminate or at least make powerless for evil, the fearful scourge of inebriety

Elsewhere, Dr Burr says "It is this condition of the nervous system calling for alcoholic stimulants that is essentially the disease This condition begins when the first inordinate desire is experienced The intensity of this desire, whether it be mild or virulent, does not change its character The slightest departure from a normal appetite indicates the beginning of inebriety The first unnatural longing for drink is essentially of the same nature as the most inveterate and uncontrollable desire The difference is only in degree

"The medical profession must study this subject as physiologists and pathologists, and not as moralists or reformers The laws governing the organism, the dependence of a healthy mind upon a healthy physical condition, the transmission of normal sensations only through the media of sound nerve trunks and [illegible], are well determined facts, and they must be recognized and applied in the consideration of the subject of intemperance, and in explaining the unnatural phenomena of the inebriate "

The late Dr D G Dodge, one of the trustees and formerly superintendent of the New York State Inebriate Asylum, at Binghamton, N Y, some years ago expressed himself as follows, in a paper on "Inebriate Asylums and their Management" "Inebriety is a condition of the system exhibiting a class of symptoms resulting from a long continued and excessive use of alcoholic stimulants which brings the subject to a condition he is too weak to overcome and for which he is not responsible All stimulants containing alcohol must produce this disease, but those containing the most alcohol, when habitually taken, act more thoroughly and rapidly It is alcohol and nothing else that is the exciting cause of the disease Occupation has a powerful controlling influence in developing or warding off the disease In-door life in all kinds of business is a predisposing cause, from the fact that nearly the whole force of the stimulant is concentrated and expended upon the brain and nervous system A proper amount of out-door exercise, or labor, tends to throw off the stimulus more rapidly through the various functional operations of the system Occupations of all kinds, mental or muscular, assist the nervous system to retard or resist the action of stimulants—other conditions being equal Want of employment or voluntary idleness is the great nursery of this disease The use of tobacco predisposes the system to alcoholism, as it has an effect upon the brain and nervous system similar to that of alcohol The use of tobacco, if not prohibited, should be discouraged

Statistics show that inebriety oftenest prevails between the ages of 30 and 45 The habit seldom culminates until 30, the subject, to this age, generally being a moderate drinker, later in life the system is unable to bear the strain of a continuous course of dissipation Hereditary inebriety, like all transmissible diseases, gives the least hope of permanent cure and temporary relief is all that can generally be reasonably expected

(*To be continued*)

Admirable Memorials —"Not storied urn or animated bust" can do that for the honoring *in perpetua* the names of departed friends, that can be done by the establishment of beds in hospitals bearing the names of the deceased Mrs C M Jeanes, of Philadelphia, has acted on this principle and has given $10,000 to the German Hospital of that city to endow a free bed in the name of her father, Mr John Kohler, also $10,000 as a free bed fund to the Episcopal Hospital for her mother's remembrance, the bed to be known as the Catherine Sulgar Kohler bed

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SOCIETY PROCEEDINGS

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill, Nov 9 and 10, 1894

(*Continued from page 989, Vol XXIII*)

Dr C K Cole, Chief Surgeon, Montana Central Railroad, Helena, Mont, delivered the following address on

THE OBJECT AND AIMS OF THE AMERICAN ACADEMY OF RAILWAY SURGEONS

The Chairman of the Committee on Permanent Organization has placed me on the program for an address on the objects and aims of the American Academy of Railway Surgeons I confess, at the outset, that the subject has not received at my hands the consideration its importance demands If my statements are too brief, or too lengthy, too enthusiastic or too scant in facts, the fault may justly be charged to my friend, Dr Reed, whose large experience should have taught him more discernment than to have selected me for such a task

We have met to consider the advisability of organizing a Society of Railway Surgeons, which shall be cosmopolitan in character, in the sense of including representative and active men from every section of the United States, and yet whose distinctive features shall include a strictly limited membership, the limitation not applying to any particular class or grade of railway surgeons but to numbers only A society which shall have for its prime object the promotion of the study of railway surgery as a special and important branch of the chirurgical art We have not met to decry the efforts of others in this field, nor in any wise to antagonize any individual, or any set of men, in any department of medicine whatsoever This statement seems warranted at this time, in view of the fact that it has been sought to show that our motives were not free from prejudice and bias In this connection I may be pardoned for suggesting, that if any of us in this assembly are possessed of any other desire in connection with this first meeting than that of the development of a higher order of railway surgery, such person would best subserve the interests of the proposed organization by withdrawing before a permanent organization is effected

However widely divergent our views may be as to methods, I assume that we are agreed that there is urgent need of steps looking to the placing of railway surgery on a higher plane than it has hitherto occupied A facetious critic in a recent journal article, entitled, " The Evolution of the Railway Surgeon," undertook to show the folly and unwisdom of claiming any special skill or requirements in the practice of railway surgery, or the necessity for organization on the part of those engaged in this work, the experience of those present here to day, indeed, the very fact of your presence here, is a sufficient refutation of this idea

How best to effect an organization which shall successfully accomplish the objects in view, demands our earnest and most careful consideration at this time During a number of years past, various plans of organization have been discussed by those more or less interested in this work These plans have been so numerous and varied, that it is impossible in the time at my disposal to rehearse them fully and in detail Among them, however, may be mentioned 1, a large popular body, made up of all those engaged in the practice of railway surgery in the United States, the Canadas and Mexico, 2, a delegatory body whose members should be annually elected from State or district societies, 3, representation in a central National society by railway systems, by States or by districts, which should each include six to twelve States In addition it has been suggested that separate organizations be had for Local, Division and Chief Surgeons These and other plans have each had their day and advocates, until comparatively recently, when the consensus of opinion seemed to indicate that a society with a limited membership and composed of experienced railway surgeons, of whatever grade, and who have demonstrated their qualifications for, as well as their abiding interest in railway surgery, should be formed Generally speaking the railway managers and legal counsel, have heartily approved the plan as herein outlined, so that it remains for us to organize a society that will prove a permanently influential factor in the advancement and upbuilding of this important department of our great railway corporations

This organization will prove useful and effective, exactly in proportion as its founders exercise care to eliminate, at the outset, such objectionable features as have been proven in experience to be dangerous We must agree in advance that our first object is honest effort in the interest of science, so that those who look to us and depend upon us will, perforce, applaud and second our efforts, as improved methods and better results shall impress them with our sincerity of purpose We must agree upon a plan or basis of organization which will most nearly meet, not only the conditions at present existing, but also such exigencies as are likely to arise in the future We must agree to avoid strenuously those elements which experience has shown us to be disastrous We must, in brief, agree that there exists a genuine necessity for such an organization as it is proposed to effect at this time If we can not agree upon these various points, and in addition that we will each, to the best of his ability, devote time and energy now and hereafter, to the erection and maintenance of an harmonious structure for the purposes intended, it were better that we should at once separate and leave to others a task of such momentous importance

The eyes of the railroad world will be upon us, our action will be scrutinized and perhaps our motives impugned by those who do not wish us well We must be prepared to meet certain unjust criticisms and predictions of failure on the part of those who do not love us or our cause We must assure ourselves of the propriety of our motives and the rectitude of our course, so that our honesty of purpose may appear to the public in such a manner as to serve as a bulwark of defense against those who seek our discomfiture by inveighing against us

It has occurred to me to supplement these remarks by reading a draft of a Constitution and By-Laws which will be submitted for your consideration some time during the session, and with the permission of the President, and if no one objects, I will proceed to read

[The proposed Constitution was then read, and will be published hereafter as adopted —Ed]

Dr W J Galbraith, Chief Surgeon, Union Pacific Railroad, Omaha, Neb , delivered the following address on

REASONS FOR THE ORGANIZATION OF THE AMERICAN ACADEMY OF RAILWAY SURGEONS

It is my aim to present to this honorable and distinguished body of railway surgeons, some of the practical necessities and reasons for the organization of the American Academy of Railway Surgeons—an organization, born, so to speak, of the advancement of a scientific period wherein, in my opinion, we are in duty bound to combine our knowledge of modern railway surgery, as well as our experience and mechanical ingenuity, in this our special field of the chirurgical art, and thus advance and promote the standard of railway surgery in this country, and at the same time offer better protection, in times of wrecks and serious accidents, to the employe, the passenger and the company we represent

I shall not take up your time by going into and defining the many detailed reasons for the organization of this Academy, but on the contrary will attempt to point out some of the evil influences we must at all times guard against to insure its success, and especially at our regular meetings I feel confident that unless we observe the proper course of discipline and keep harmony in view, it will be but a short time—yes, a very short time, until the primary objects of this organization will have been lost sight of, and the Academy fall into disrepute

The reasons for this organization are the proper demands of our companies for us at all times, regardless of political and personal motives, to consider and study the scientific principles of how best to render surgical aid to the special classes of cases that fall into our hands by virtue of the positions we occupy as railway surgeons Moreover it would be a fruitless task to attempt to demonstrate to you the many ways that we can assist in elevating the science of railway surgery, as well as how best to consider the many perplexing medico legal problems that are frequently referred to us by the great corporations we represent, as well as in times of legal strife and trials, when we are summoned to appear in court as surgical experts The great difficulty of establishing facts in personal injury propositions are well known to every judge Our experience should map out to us the loyal and proper course to pursue, in order to protect our companies from fraud and deception It is useless for me to dwell upon the necessity of the proper discussion of this monstrous subject, but suffice it to say, that it is one of the principal reasons for the organization of this Academy

This Academy fully appreciates the great importance of the many complications of railway surgery and the scientific requirements of a better knowledge of the same

It affords me great pleasure to announce, not only to the managers of railroads but to the general public as well, that this Association fully appreciates the vast field that is open to it for investigation, and by our combined efforts and constant research we shall hope to elevate our calling With so many scientific problems before us for investigation, why should we invoke the disgust of our managers, by making useless and foolhardy recommendations as to the proper automatic car couplers to be used, or indeed to attempt to promulgate legislation looking to the passage of laws compelling all railroads to equip their rolling stock with uniform safety appliances Action of this kind might be proper and indeed humane, but I do not deem it within the province of this organization Nor should this organization, at this time, consider such sanitary problems as the reconstruction of the modern Pullman car, by doing away with the present elaborate upholstering and draping, or recommending that cars be especially constructed for the transporting of consumptives and attached to all trans-continental trains in order that healthy passengers might not be exposed to the contagion or infection of tuberculosis and kindred diseases Nor can we consistently recommend that hospital cars be maintained at all division terminals of our large railroad systems for use in times of emergency The extreme impracticability of these and many other schemes that have been advocated by some of the younger and less experienced railway surgeons in the past, is fully appreciated by this body of surgeons Pause, for one moment, and consider the enormous expense that would be entailed by equipping with hospital cars a single railroad like the Union Pacific

We should not lose sight of the fact that our railroads are managed by the most able men, in their special avocations, the country affords, and that these managers have placed at the heads of the various departments of their roads, men of corresponding ability It is the business of heads of mechanical departments to investigate the merits and demerits of whatever safety or other devices are offered, and make their recommendations to the general manager It would be absurd then, I say, for this organization of scientific men to mix itself up in mechanical problems that should be left alone to the mechanical and operating departments of our railroads

One of our most prominent railroad managers, in conversation with me a few days ago, commented most favorably upon the business like appearance of our program for this meeting and suggested that it would be wise to send a copy of it, as well as of all other matter pertaining to the Association to every manager in the country, in order that they might see and know what we are doing, and especially familiarize themselves with the manner and methods employed by us in promoting this important adjunct to the modern operation of railroads I can assure you it would give me great pleasure to have with us here to day all, or at least a majority of the prominent railroad managers of this country, that they might see and appreciate to a small extent at least the zeal that is manifested by this gathering of earnest intelligent surgeons, to promote by unified research the important specialty of railway surgery I am glad to state that Dr Reed will be able to give you some very surprising information concerning the railroads in this country, as well as in the Dominion of Canada and Republic of Mexico who have expressed themselves through their general managers as being highly in favor of an organization based upon such meritorious principles as are declared by this Academy And also that we are encouraged and supported by the most eminent contributors to the literature of railway surgery of our times This is certainly a very strong incentive for us to use our best endeavors to make the very most of this organization from a scientific standpoint, and truly earn that exalted motto of the Academy, The higher the order of railway surgery the greater the protection to the employe the passenger and the company" For what does this encouragement mean' Does it mean that we have, by false pretenses and deception invoked the support of these leading railroad men? or, does it mean that these men recognize the necessity of an organization of this kind for scientific purposes and not for the purpose of affording hundreds of surgeons the opportunity of requesting transportation for themselves families and friends to enable them to gratify their junketing and pleasure seeking proclivities

The future of this Academy must be apparent to every one within hearing of my voice when we consider that this gathering together of so many eminent surgeons, is but the fruition of a few weeks' work of our committee Certainly it is evident that the great sheet anchor of our success (the managers) have seen and appreciated the untold benefits that may be derived from the conscientious work of an organization like the American Academy of Railway Surgeons in the working out of scientific problems growing out of the operation of railroads

The practical feature of this Academy in limiting its membership to only active workers and writers has received several very commendable comments from general managers, they agree with us that a smaller number of active workers will accomplish much more good than a large number of lookers on That this Academy will advance the standing and science of railroad surgery is a certainty It requires but a glance about this hall to behold many eminent surgeons, who, by their standing and support of the railroad they represent have this day founded one of the most respected and honorable surgical societies in this country The character of our program proves very conclusively the distinction I have given you its business like expression having superseded notices of excursions and junketing trips, which have been the great drawing cards heretofore

In conclusion, I desire to impress upon your minds the great importance of a loyal spirit toward the company you represent, as well as its employes Secure full and accurate statements of facts in all cases of accidents Avoid useless recommendations to your managers, and more particularly should we have a care not to allow our political ambitions or desires for self aggrandizement to dominate our better judgment, but constantly bear in mind that this Academy is organized for the sole and express purpose of promoting our special scientific work, first, last and all the time, and thereby demonstrate to our companies its practical usefulness

A SYMPOSIUM ON PERMANENT ORGANIZATION

was given by Dr Harvey Reed, Consulting Surgeon, B & O Railroad, Columbus, Ohio

In the permanent organization of any society or association every factor effected by such an organization should be carefully considered Among some of these factors may be mentioned 1, objects, 2, the methods of accomplishing the desired end, 3, those effected either directly or indirectly by such an organization

In the address presented by Dr Cole, you have learned that the objects of the American Academy of Railway Surgeons are 1, the clinical and scientific study of railway surgery, 2 the careful consideration of the medico legal questions arising out of the railway service, 3, the consideration of such sanitary and hygienic problems as may effect directly or indirectly the railway companies

No one can deny the practical importance of the objects proposed by the Academy, and that the carrying out of the same will result in 'the higher order of railway surgery," which guarantees a corresponding protection to the employe, passenger and company

The railway service of modern times has gradually changed from an amorphous condition to that of crystallized precision and depends for its success upon system and exactness in all the details of the service

It has been found necessary to have a head to every department, and those employed in each department should be well qualified for the duties devolving upon them in carrying out the work assigned to them The better they are qualified, the better service they can render the company, and the better service rendered the company the greater the earning capacity is increased on the one hand, and the less expenditures on the other

I—THE DESIRED END OF ORGANIZATION

It has seemed strange, and we might almost say paradoxical, that the surgical service should be among the last departments to undergo crystallization Yet it is an undeniable fact that the progressive railway companies of this country have discovered that the maintenance of a well-organized surgical service is a valuable department to the company They have learned that while it does not represent earnings, it protects earnings after they are secured and, as the old adage goes, a dollar saved is equivalent to a dollar earned

II—THE METHOD OF ACCOMPLISHING THE DESIRED END

It is not only necessary for the Academy to have grand practical objects in view, but it is equally important that the methods adopted for carrying out these objects should be carefully, conscientiously and impartially considered In maturing plans for the permanent organization of the Academy, it has not only been advised by many of the leading surgeons who have had long experience in the service, but recommended by many of the managers, that the Academy be limited in numbers and the same be confined to surgeons of practical ability either as experienced surgeons or eminent observers and writers on railway surgery, forensic medicine or sanitary science

It has long been demonstrated, that in order to accomplish the greatest amount of work in a certain direction, it is necessary *to limit the number who undertake the work* and make the responsibility on each one proportionately greater For instance, the railway companies do the large bulk of their important business through their general managers, who not only have experience but are held responsible for grave trusts that involve millions of dollars, which if left to the stockholders to manipulate would result in financial disaster For this reason the railway management argues, that in order for the proposed Academy to accomplish the greatest amount of benefit to the company they represent, it can be done best by an association, such as is proposed, of *a limited number of energetic practical workers* who will meet from year to year, to consider and discuss the many important problems that are daily manifesting themselves in the general surgical service of the companies they represent

The question as to how the membership of the Academy should be selected and maintained was one of no small importance, and, I can assure you, one which was not easily solved At first thought, a delegatory system would seem to strike the mind most favorably, but when we come to consider this system in its details, the question arose as to who should select the delegates If this could be settled satisfactorily, then a still greater obstacle presented itself, and that was the continual change of membership of the Academy from year to year

For example, if we were to base our membership upon one delegate for every ten railway surgeons in the United States, we would at once have an eligible membership of about five hundred We could not expect the same delegate to return from year to year, and if the company, or chief surgeon, or local surgeons from which the delegates are selected, were to attempt to act impartially and give each of their staff an opportunity to attend an annual meeting, you will at once see that with each annual meeting a new set of delegates would appear and that, under this system a delegate would *only be able to attend a meeting of this character once every ten years* This being a fact, you can readily see how it would interfere with the interest on the part of the delegates, saying nothing about their ability to accomplish the highest scientific work possible

After discussing this question in all its phases, your committee thought best to select a nucleus for the Academy, consisting of surgeons who were believed to be worthy and well qualified in carrying out the arduous task proposed by the new organization, and that in doing so they should be made permanent members, not only in order that they would have a permanent interest, but that it might enable them to accumulate knowledge which, with each year, would increase their value, not only to the Academy but to the railways they represent and railway surgery at large Firmly believing that this plan will render the best service, a skeleton constitution which we have already referred to has been prepared with this idea in view, and it is left to you, gentlemen, to say what the limit of membership shall be and to fix the standard of admission

III —THOSE AFFECTED EITHER DIRECTLY OR INDIRECTLY BY SUCH AN ORGANIZATION

In adopting the fundamental laws of the proposed Academy, we must not be unmindful of those who will be affected by the same We must remember that not only those who may be selected as Fellows of the Academy will be benefited or injured by our fundamental laws, but our fellow-surgeons and co-laborers, as well as the management of the railroads, will be affected for good or evil by the constitution which we may adopt Our standard of admission should be high and the *limit of our membership low* Every candidate who applies for admission should be carefully scrutinized before taken into fellowship This would of necessity require us to take into consideration, not only what benefit the admission of such a candidate would exert on the Academy, but to what extent he would benefit the railroads which we are supposed to serve to the best of our ability in the capacity of railway surgeons

Our fundamental laws should be of such a character as to exclude all actual drones and simple ornaments from our midst It should encourage the admission of honest workers who will not only be willing but eager to meet with the Academy from year to year, and assume any duties that may be assigned them which they may be capable of carrying out. *We must remember in the adoption of our constitution that* we are on trial and that our success, our prosperity, yea, our right to exist, will depend on the character of our work and the fruits of our labors While sociability should contribute its benefits to the members of our Academy, our highest aim, first, last and all the time, should be the constant advancement of railway surgery by a continued endeavor to simplify its technique and solve its mysteries and thereby contribute a liberal benefit to the companies we represent

We trust that the few hints we have thrown out in this symposium will aid the members of the Academy in adopting a constitution which will not only be simple, but practical, and which will contain the greatest number of good with the least number of objectionable features possible, and that in the consideration and adoption of these laws each Fellow will keep in view the fact that "the higher the order of railway surgery, the greater the protection to the employe, the passenger and the company "

DR W H ELLIOTT, Chief Surgeon, Georgia Central Railroad, Savannah, Ga , who was on the program to open the discussion on the three previous papers, being detained by a railroad wreck, the discussion of these papers was postponed until later in the session On the arrival of Dr Elliott, the matter was again referred to by the following remarks

Mr President and Fellows of the Academy

The objects and aims of this Academy should be to advance the science of railway surgery True devotion to the *attainment of knowledge and its successful application in* the practice of our art, are the only means by which we can obtain this end Devotion to science must be paramount to the gratification of personal ambition Honors in this Academy must come unsought

Nothing must be said or done which will reflect upon or injure the National Association of Railway Surgeons, because we are still members of that body and fellow-members in the medical profession, and the injury of one is the injury of all No discussion with the National Association or its members in regard to this Academy is necessary or desirable Arguments might become heated, and while failing to convince, would most probably result in injury to the cause of railway surgery A success of the Academy at the expense *of the National Association would be temporary* only, and would finally end in lowering the esteem in which the Academy and railway surgery is held

Nothing must be done in the Academy which is not open to inspection or which is in any way calculated to make a false impression Nothing can succeed in the long run but noble and high aims founded upon truth and justice Our motto calls on us to be true to our profession, to our patients, and to the railway companies we serve

> " This above all to thine own self be true
> And it must follow, as the night the day,
> Thou canst not then be false to any man "

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No 8 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

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SATURDAY JANUARY 5 1895

THE ALLEGED BACILLUS OF BILIOUS FEVER

The medical world has heard but little of the bacillus of bilious fever The *éclat* which attended the recognition of the spirillum of cholera and the bacillus of tuberculosis was *not* extended to the recent announcement of Dr DOMINGOS FREIRE, of a bacillus similar to that of TOMMASI-CRUDELI in the bilious fevers of hot climates Yet locally, in the place of its origin, this announcement created such a disturbance in the medical atmosphere as to agitate not only the professional but the daily press, and this because in addition to the intrinsic importance of the alleged discovery, the question was incidentally raised of the value of FREIRE's inoculations with attenuated cultures in immunizing against yellow fever Many letters were published, copies of which are now before us, from which we outline in a suggestive way the manner in which the announcement was received in Rio de Janeiro It appears from these that PROFESSOR FREIRE has found the plasmodium of LAVERAN in some cases of malarial disease, but regards this organism as a result in the blood of the action of the bacillus which he has just discovered

Three medical men, two of them former pupils of PROFESSOR FREIRE, and all of them at one time his disciples and admirers, visited his institute to verify the existence of the bacillus They were DRS CHAPOT-PREVOST, OTTONI and FAJARDO, the first, Professor of Histology of the Faculty of Medicine of Rio de Janeiro, the second his assistant, and the third, physician to the yellow fever hospital As a result of their visit, DR CARL SEIDL, Director of the San Sebastian Fever Hospital, published an invitation to PROFESSOR FREIRE to submit his cultures and methods to a commission of competent men to be named by the medical faculty, stating that men of this kind whose competency and impartiality were above suspicion were as easily to be found in Brazil as in Europe, and charging him as follows

1 That he had no pure culture of the alleged bacillus in his laboratory

2 That to mitigate the disappointment of his visitors he allowed them to examine a microscopic preparation (with a cracked cover-glass) from an impure culture

3 That a kidney slice from an infected guinea pig, referred to in his publication as showing the bacillus, presented only purple stained nuclei of cells of connective tissue which had been christened bacilli

4 That his assistants vaccinated with a culture which he, FREIRE, said *ought* to be pure

5 That on examining this culture it was found that the defects of the cover glass had been considered by him as qualities of a pure culture, and that below this was a mixture of sprouts and infusoria, which mixture served for his vaccinations

PROFESSOR FREIRE in reply held his position to be established by his visitors' own acknowledgment that they had seen a culture, that on account of the technique he had employed (described by CORNIL) the purple objects in the kidney slice could be nothing but bacilli, he laughed to scorn the idea that flaws in the cover glass had been photographed as bacilli, but made no reference to the invitation to submit his work to a commission CHAPOT PREVOST, who is a pupil of EHRLICH of Berlin, retorted that neither he nor his friends had seen a *pure* culture, and that the students in his histologic class will show to any one in the normal kidney of the guinea pig, purple stained nuclei obtained by the processes used by FREIRE in preparing his kidney section, and again and again is the Professor urged to demonstrate the existence of the bacillus before a selected committee, so that in the sixteenth letter of the series now before us he at last disposes of the invitation after this manner "I am not his pupil to be at his caprice nor is he my superintendent It would be against my dignity as a professor of a faculty to be giving explanations to whoever demands them, about an elementary manipulation of a bacteriologic process which every apprentice ought to know "

Naturally, in the course of this discussion, the participants digressed to the micrococcus xanthogenicus FREIRE attributes all the opposition to his discoveries to a clique who, not content with spreading their detractions in Brazil, have endeavored to plant a center of opposition to him in Paris, and he refers to his statistics as establishing the value of the "vaccinations" for yellow fever SEIDL replies that these vaccinations have been in progress since 1883 and yellow fever continues, becoming year by year more formidable and destructive, instead of being gradually stamped out as was prophesied by Freire Statistics will never convince the bacteriologists of the world, the medical fraternity of Brazil, nor the public, of the value of these vaccinations "For where is the physician, where is the intelligent man in this town, who does not know cases and cases in which said vaccination was not only useless but perhaps harmful because it caused a false confidence?" In the laboratories of Paris, Vienna and Berlin are long series of pathogenic germs, some only recently announced, yet there is no culture of the xanthococcus which has been discovered for so many years and put to practical account in Rio Ottoni challenges Professor Freire to name one laboratory, not his own, in which the xanthococcus has been verified as the cause of yellow fever, and the suggestion is made that since we have waited so long for the verification of this microbe we may have to wait a considerable time for a pure culture of the bacillus of bilious fever

The last letter of the series, number twenty, by Dr Seidl, closes with this reference to the invitation for an investigation by competent men "And the committee of experts will wait for the Greek Calends?"

FLECHSIG'S TREATMENT OF EPILEPSY

The treatment of epilepsy has always been surrounded with many difficulties The disease itself is symptomatic, presenting a most varied pathology, from that of a functional neurosis to those graver conditions involving organic degeneration Such being the case it is apparent that any method of treatment must have only a limited range of application Undoubtedly, the greatest successes are reached in this disease along those lines which improve the general nutrition of the body and thus render more stable the nerve cells concerned in the production of the attacks There is no disease which more certainly affirms that we should beware of the single remedy, or of one method While the bromid treatment is perhaps more generally successful than any other, yet it can not be followed as a routine practice and it is not adapted to more than one-half of the cases that are actually met with in practice

Recently, Collins (*Medical Record*, Sept 22, 1894) has studied the method of Flechsig in the treatment of some forty cases with, he claims, excellent results The method consists in the administration of opium beginning with a dose of 1 grain after each meal, and increasing until 10 to 12 grains are given during the course of the day This treatment is persisted in for about six weeks and is not usually followed by any reduction in the number of the attacks Some patients complain of the effects of the opium but this is overcome to a great extent if the patient takes a good deal of physical exercise, and free catharsis is employed At the end of six weeks the opium is abruptly discontinued and comparatively large doses of the bromids are given This in a majority of instances is followed by a marked diminution in the number and severity of the attacks, and improvement in the general mental condition of the patient The bromids are then rapidly diminished until a small dose is reached, or else they are discontinued altogether according to the condition of the patient

Some of the cases reported by Collins were those of epileptics who had been under the bromid treatment with very unpleasant results, but after the use of the opium the bromids were well borne The method seems to give the best results in those severe cases dependent upon organic changes in the brain and vessel walls, precisely those cases in which other methods have so signaly failed A number of cases of idiopathic epilepsy have done exceedingly well under this treatment, but not so much is to be looked for in this class of cases

REVIVAL OF A SIXTEENTH CENTURY SUPERSTITION

The fasting girl and trance states furnish the greater number of medical newspaper sensations but this was varied on December 26 by the appearance of an article in the Chicago *Evening Post*, under the following startling headline "He resembles the image " The article which is a dispatch from Jamestown, N Y, goes on to say that one George W Depew, has been arrested for the murder of Mrs Winslow Shearman and her daughter Mrs Clinton He has been identified by his resemblance to an image of a man seen in Mrs Shearman's eye The dispatch then goes on to state that the discussion over the possibility of identifying a murderer by the image left on the retina of the victim's eye has been revived with great intensity Versimilitude is given the narrative by the statement that, "those who saw the image before it was blurred by removal of the eye from the socket, remember the image so distinctly that they could identify the general outlines of the man's figure from it and the half profile revealed in the image Before the removal of the eye the image was sharply defined " If there is still a lingering doubt in any one's mind regarding this statement it would be swept away by the following "Even the wrinkles in the clothing were plainly seen by the aid of the microscope "

All through the Middle Ages there was a belief that the eye of a murdered person contained an indelible impression of the last scene upon which he looked In the jurisprudence of that time there are cases recorded of conviction upon such evidence It however, was never received with as great favor as was the touching of the dead body by the suspected person, to learn if the wounds would bleed afresh, in which case guilt was held to be fully established. The theological element figured in this latter test, just as it did in that of the ordeal of battle.

It must be very comforting, in these *fin de siecle* days, to those who have an abiding faith in the good old times of the fathers, to have a story of this kind follow upon the heels of an outbreak of "hypnotism" in a Wisconsin town, allied in many respects to the famous witchcraft episode at Salem.

THE PLEA OF HYPNOTISM IN CRIMINAL CASES.

Undesirable effects of a little dangerous information on medical subjects on the part of the public are frequent enough and indeed too common to usually call for special remark. When, however, a wave of mental aberration seems to be going over the country, and on a subject that comes especially within the purview of a medical journal, it would be unpardonable to let it pass unnoticed, the more so when the evil is in part due to the encouragement given by an unscientific credulity on the part of members of our profession, regular and otherwise.

Within the past few weeks the plea of irresponsibility for capital offenses on account of hypnotic influence has been raised in two prominent instances, and in at least one other case it has been successful. This is not a new mode of defense. It formed one of the most prominent features of the celebrated Eyraud case, tried in France two or three years ago, but the homicide McDonald, of Wichita, Kan., is apparently the first one who has successfully availed himself of it. The precedent has been set, and the possibilities for this plea in the future are indefinite.

While one may admit that a somnambulist *may* irresponsibly commit a homicide, and that the actual condition of hypnotism is a sort of induced somnambulism, the possibilities of miscarriages of justice in applying this to criminal jurisprudence are too great to be ignored. There is not merely the chance of a murderer escaping by this plea, but there is even a greater possible danger to innocent parties from false accusation. This is well illustrated in the Pickin case in Wisconsin, now exciting so much popular interest. Whether or not there is any basis of fact in the charges, the range it opens to hysterical accusation is sufficiently obvious.

The responsibility of the regular medical profession in this matter is a very large one. It is not probable that any man can be convicted or acquitted on a plea of hypnotism without the testimony of physicians, and how many are there who have well founded and scientific opinions on these subjects? It is to be feared that the number is by no means so great as it should be, and that the credit of medical testimony will suffer in consequence. The views in regard to hypnotism of some men who ought to know better, are wild enough; with some it has reached the evil eminence of being a fad, and there seems to be no limit to their credulity.

It is astonishing how little real advance there has been in our discussions of this subject, and how sensible were the views of many of the earlier alienists of this country and abroad in regard to it. One need only read a work published in the early forties by Dr. J. W. Galt, of Virginia, and which, with the exception of Rush's work, was the earliest important contribution to psychiatry in this country, to be convinced of this fact. The later literature of hypnotism, with the exception of a few important contributions, is to a great extent a waste of human effort and largely a monument of human credulity.

The object of these remarks is to call attention to the medico-legal importance that may become attached to the subject, and to emphasize the need of a proper cautious scientific spirit on the part of our profession in dealing with it. It has other phases perhaps not less important in their way, such for example as the effect on public health of the practices now prevalent, but that, as Mr. Kipling says, is another story, and may be dealt with hereafter.

SMALLPOX IN 1894.

After all the space given to the subject in the public press, concerning the "ravages of the loathsome pestilence," it appears that there were only about ten thousand cases of smallpox, with not to exceed three thousand deaths, in the United States during 1894. Compared with the constant mortality from consumption, pneumonia, diphtheria and other contagious or infectious diseases—more or less preventable—it is apparent that smallpox has lost its epidemiologic significance for this country almost as fully as has Asiatic cholera or yellow fever. There may from time to time occur an outbreak of either of these latter diseases; but there is reason to believe that the terrors which cholera caused during the middle third of the century, and yellow fever for more than a hundred years, will never again be repeated.

The prevalence of smallpox in 1894 has been pithily called "the lesson of neglected vaccination." But while this is, in a certain obvious meaning, an apt characterization, there is also an optimistic lesson in the figures which should not be overlooked. One hundred years ago (John Simon) there were 96 deaths from smallpox out of every 1,000 deaths from all causes. At our average annual death rate (J. S. Billings) of 18 per 1,000 there were 1,170,000 deaths from all causes last year in a population of 65,000,000. One hundred years ago, therefore, we should have had 12,300 deaths from smallpox last year instead of less than three thousand.

That this latter number is wholly unnecessary is true, but the difference between what is and what might have been, but for JENNER, is another laurel for his centenary next year

CORRESPONDENCE

The Erysipelas Toxins—A Reply to the Editorial of Dec 15, 1894

NEW YORK, Dec 20, 1894

To the Editor —My attention has been called to your recent editorial upon the " Failure of the Erysipelas Toxins " Coming so soon after a previous editorial upon the *success* of the toxins, I am somewhat surprised, not so much at the radical change of views, as at the change having been allowed to take place without a more careful inquiry as to the present status of the treatment and a more critical analysis of the evidence presented

The statement is made in your editorial "There is no longer much question of the entire failure of the toxin injections as a cure for sarcomata and malignant growths During the past six months the alleged remedy has been faithfully tried by many surgeons, but so far not a single well authenticated case of recovery has been reported, so far as our reading has extended, and the personal experience of surgeons of our acquaintance with whom we have conversed, demonstrates that in all cases in which they have tried the erysipelas toxin the result was no improvement" It is further stated " We should not accept as conclusive, reported cures by any investigator, no matter how prominent We should demand that these cases be corroborated by other observers making investigations independently "

Fortunately, there is no issue between the editor and myself as to this latter statement, and only such evidence as will stand the rigid tests of scientific demonstration will be considered This whole dispute, then, resolves itself into the simple question of fact, *Does* or *does not* such evidence exist? I presume the writer of the editorial used the term " erysipelas toxins," in short for the toxins of erysipelas and bacillus prodigiosus As I was the first to propose and to carry out this method of treatment for sarcoma, and as I am the only one who has used this method in any large series of cases, it would seem that my experience, stretching over a period of more than three years, ought to have as much weight in determining its value, as the "personal experience of surgeons of the editor's acquaintance," whose observations cover a period of less than six months

In my paper on this subject presented before the American Surgical Association at Washington, May 31, 1894, I reported the results of twenty-five cases of inoperable sarcoma treated with the mixed toxins Of these cases, six were successful up to that time Since that time I have treated thirteen other cases of inoperable sarcoma, with the result of now having ten cases out of a total of less than forty in which there is good reason to hope for permanent cure These results were reported in a recent paper before the New York Academy of Medicine, Nov 15, 1894, and will soon be published in detail in the *New York Medical Record* None of the six successful cases reported at Washington, six months ago, have shown any tendency to relapse One of my cases has gone three and one-half years This was a twice recurrent sarcoma of the neck and tonsil, with the patient in a most desperate condition, with no chance of living more than a few months He had been operated upon by Professor Duranti, of Rome, and Dr Bull, of New York The microscopic examination was made by Dr Farquhar Ferguson, Pathologist to the New York Hospital, and he was frequently seen during the treatment by Dr Wm T Bull, Professor of Surgery of Columbia College

Two other very extensive inoperable cases have now gone nearly two years without recurrence Both cases were treated at the New York Cancer Hospital, and the diagnosis confirmed not only by Dr Bull and other surgeons but by careful microscopic examination by the leading pathologists of this city Both of these cases were presented Nov 15, 1894, at the Academy of Medicine, in perfect health Another case that has now gone more than one year, a large inoperable sarcoma of the abdominal wall, was sent to me by Dr Maurice H Richardson, of Boston I will quote Dr Richardson's own words taken from the discussion and found in the Transactions of the American Surgical Association, 1894 "In this case there was no doubt, according to accepted methods of diagnosis, that the woman had a malig*nant and necessarily fatal disease* The mass filled the right lower quadrant of the abdomen When I operated I first *incised in the median line and came down on the tumor* I then made an incision in the lateral region with the same result There was nothing to be done surgically I took out a section and had it examined It was pronounced sarcoma The patient was sent to New York in October In May there was not the slightest sign that could be detected Unless the diagnosis was entirely wrong, unless the history, gross appearances and microscopic examination were entirely wrong, there was a case that would have died sooner or later" I will add that the microscopic examination was made by Dr Whitney, Professor at the Harvard Medical School, whose reputation as a pathologist and microscopist ought to be sufficient guarantee of the accuracy of the diagnosis

Space will not permit me to go further into detail, but in all of my cases the diagnosis was not only established by eminent surgeons, but confirmed by microscopic examinations of competent pathologists Such evidence as this I claim to be *scientific*, in the strictest sense, and it can not be lightly dismissed as inconclusive because reported by a "single investigator'

In closing, I will say that the editor's demand that "these cures be corroborat d by other observers" has already been completely met The report of a very extensive sarcoma of the palate and pharynx, successfully treated by Dr Walter B Johnson, of Paterson, N J, may be found in the *New York Medical Record* of Nov 15, 1894, and four other successful cases in the hands of different surgeons throughout the country who used the mixed toxins, prepared and made under my direction (from cultures originally obtained from a fatal case) will shortly appear, with the publication of my paper

In my previous paper (*loc cit*) I stated that cultures obtained from any but a very virulent case of erysipelas were of little value, and furthermore that all of my successful cases had been treated with toxins made from cultures obtained from a fatal case of erysipelas Fully recognizing the importance of caution and conservatism in a matter of such grave import, I refrained from publishing my results, not only until I had a sufficient number of cases, the diagnosis of which was beyond question, but until sufficient time had elapsed to prove the permanency of the cure

That a few physicians, in a very limited number of cases, with indifferent preparations of the toxins, have failed to obtain good results will not, I am sure, have great weight in the minds of the scientific portion of the profession, in determining the failure or success of this method of treatment of sarcoma Very truly yours,

WILLIAM B COLEY, M D

The Treatment vs the Abortion of Typhoid Fever

YOUNGSTOWN, OHIO, Dec 24, 1894

To the Editor —During the past year you have published four papers on typhoid fever, which I had read before the Mississippi Valley Medical, the AMERICAN MEDICAL and the Mahoning County Medical Societies Those papers were all written for one object,—to prove that typhoid fever can be aborted—a difficult enough task surely, without wasting much time in giving details of a treatment which I did not suppose many would care to try until very conclusive evidence of its efficacy had been presented, but although, some physicians have secured most brilliant results from the treatment by relying on these published directions as their only guide, I fully recognize their inadequacy and have always intended to write a treatise on the abortive treatment of typhoid fever, as soon as there seemed to be a demand for it

Since the publication of my first paper in February last, I have received many letters asking for exact details of my method of aborting typhoid fever, but I do not find the name of Dr W S Caldwell of Freeport, Ill He must therefore have obtained his whole knowledge of this important subject from one or more of these incomplete papers written for an entirely different purpose Yet he published a letter in the JOURNAL of the 15th inst in which he confesses his inability to succeed with a treatment of which he must necessarily know so little Immediately on receipt of the JOURNAL containing his criticism I wrote him the following polite letter

YOUNGSTOWN, OHIO, Dec 15, 1894

MY DEAR DR. CALDWELL - Presuming that the object of your letter in the current issue of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION is to seek for the truth," and believing that if put in possession of all the data at your disposal, I could not only show you why you failed to secure the results which my charts show are possible, but how you may obtain even better results than I have had, because my work has been done under difficulties and I have made many mistakes which you could avoid

Will you therefore give me the necessary information by answering the inclosed list of questions

1 How many cases of typhoid fever have you treated by my method '

2 On what day of the disease did you begin the treatment of each case '

3 What was each patient's condition when the treatment was begun '

4 What was the exact formula used in each case?

5 What was the size of doses given?

6 How often were they given during the first six days?

7 What other medicines were given besides those advised by me?

8 What was the daily morning and evening temperature?

9 Give the pulse record

10 How many times did the bowels move each day?

11 How soon after beginning treatment did the tympanitis disappear?

And add any further information that you may possess about them Will you also send me samples of the remedies you used, or if this is not possible give me the name of the druggist who prepared them for you, so that he may send me sample on order?

Hoping to hear from you at once, I beg to remain, my dear sir Most respectfully yours,

JOHN ELIOT WOODBRIDGE

P S—Should you have other cases of typhoid fever and will telegraph me, I will go to Freeport free of cost to your patient or yourself, and show you how to shorten the course of the disease to less than two weeks and how to save the life of every patient

This letter he probably does not consider worthy of his attention, as more than a week has elapsed and I have received no answer His published letter is therefore the only measure I have by which to judge of his ability to treat a case of the disease which he truly designates "terrible"

First, he says I have published "*in several medical journals*" This is not true I have never published a paper on typhoid fever in any journal, magazine or paper, except the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION One paper was published in the Transactions of the Ohio State Medical Society

a 'paper" So he probably has seen but one of my five published papers on the subject, and he does not say which one

He next errs by calling a paper or series of papers, written to prove that typhoid fever can be aborted *'paper on the treatment of typhoid fever"* Notwithstanding the fact that less than two and one half of the sixty pages, refer to treatment He says "*The first part of his prescription*" (by which he evidently means—first prescription)—"*containing*" "*guaiacol*" Is this only an inaccuracy, or does Dr Caldwell not know the difference between 'guaiacol" an acrid, poisonous, oily liquid and guaiacol carb , a white, crystalline non poisonous salt?

It would be unreasonable to suppose that Dr Caldwell would write with less care or less accurately for the thousands of readers of the JOURNAL than he would for his druggist Therefore judging his prescriptions by his published criticism we are justified in giving expression to some surprise that "*his vigorous young woman*" was in condition to have a temperature of 105 degrees F after "*two weeks trial*" without taking into consideration the fact that she was subjected to at least three different methods of treatment, viz , the Brand or bath, the Woodbridge, and the compromise or sponge treatment

Without taking the trouble to criticize the remainder of this letter, it seems clear that if others have tried my abortive treatment of typhoid fever with no better preparation and as carelessly as the Doctor's letter would lead us to suppose he conducted his experiment then we shall probably hear of other failures as dismal We shall undoubtedly hear, too, of some successes, and one brilliant success should outweigh an hundred failures in estimating the value of the treatment The failures may be due to inert or impure drugs, to carelessness or want of skill in compounding them, to their improper administration or even to the administration of other remedies interfering with their action Thus the physician who prescribes, the nurse who administers, the druggist who dispenses, or even the pharmacist who manufactures the remedies, one or all of them may contribute to the failure, making that but at best a negative evidence, while a single well established success puts the stamp of value on the treatment The gun that speeds the bullet true to the mark in one hand, if equally well charged and truly held, will do so in every hand, but if the powder be poor, the bullet untrue, or the hand that holds the gun unsteady, no matter how accurate the weapon may be the bullet may be expected to fly wide of the mark

Respectfully yours,

JOHN ELIOT WOODBRIDGE, M D

Treatment of Typhoid Fever

COLUMBIANA, OHIO, Dec 25, 1894

To the Editor —In response to the physician who has been using Dr Woodbridge's treatment for typhoid fever and has not met with the success he had hoped for and that Dr Woodbridge had assured him he would meet with , and to all who would try it, I desire to say that I have been carefully testing it for the past three months, and so far it has proved very successful in my hands In that time I have had an unusual number of cases of typhoid fever Not being satisfied with the old method of treatment, I was induced to try the plan proposed by Dr Woodbridge Some of my cases presented unusually severe symptoms, temperature ranging as high as 105 5 While I was not able to abort it entirely in all of my cases, yet the temperature was materially reduced in a very short time, the fever ran a very mild course and my patients were soon in a convalescent stage

I find this treatment must be employed early In one or two cases I used other measures first, finding they did not accomplish the end desired, I then adopted the Woodbridge method after a delay of a day or so In these cases my results were not so good as when I used his measures first Perhaps the physician who says he practices very conservatively, failed to use the measures early enough to abort the disease, and thus became discouraged with the remedy If this gentleman, and others also, will give the method a fair trial, using the treatment early and calling Dr Woodbridge in consultation in the severer cases allowing him to explain more fully his plan of treatment, I think the results will be more satisfactory Yours fraternally,

C R JUSTICE, M D

MERCED, CAL, Dec 27, 1894

To the Editor —Replying to Dr Caldwell, will say I have tested the antiseptic treatment of Dr Woodbridge sufficiently to convince me of its great value I have been unable, so far, to carry out this treatment *exclusively* from beginning to end of case, for various reasons, but the results obtained in the way I used it, convince me of its superiority Then it appeals to the *reason,* it not only destroys the bacilli but carries them off, and by giving large quantities of water we have an (almost) antiseptic irrigation of the intestines W N SHERMAN, M D

The Practical Importance of Well Established Facts in Therapeutics.

To the Editor —Dr N S Davis puts the questions If alcohol when taken into the living body directly diminishes nerve sensibility, muscular force, and so alters the constituents of the blood as to retard both the internal distribution of oxygen and natural tissue metabolism in direct proportion to the quantity to be taken (the established fact according to Dr Davis), why do we continue to speak and write concerning it, or to use it, as a *stimulant, heart tonic* or *restorative agent?* The answer seems to be that experience proves that we are right in spite of the supposed established facts

Let me briefly illustrate In the year 1870 I started to walk from Courmayeur to Chamounix via the Col du Géant, a climb of 10,000 feet and a march of some six or seven hours over the Mer de Glace I arrived at the summit of Col between 9 and 10 o'clock A M, and after resting one hour for breakfast, commenced the descent At this hour the heat was intense, and the motion of walking on the glacier was as irregular and uncertain as on board a ship I was seized with mal de montaigne, vomiting, diarrhea and nervous prostration exactly similar to similar experiences at sea, and I lay down for an hour and slept, but no sooner did I begin to walk than the vomiting returned My guides and porter made a *chaise à porteur* of their staves and alpenstocks They essayed to carry me, but the motion of their movements was even worse than that of walking and the attempt was given up With the prospect of being benighted on the ice I then sent on two men to Montainvert with instructions to return as quickly as possible with wraps, fuel, restoratives and other requirements for passing the night in safety In the meantime I struggled on for a few yards at a time until at last even a few steps brought on such prostration that I was compelled to stop My condition became alarming, my face was deathly, I was pulseless, my hands and feet cold and I was quite unable to rise, and my friends covered me up in shawls, chafed my hands and did their best to maintain my circulation We were waiting most anxiously for the return of my men with the necessary restoratives, when we were accosted by an Irish gentleman on his way to spend the night upon the glacier with the object of climbing one of the neighboring peaks to see the sun rise He saw and diagnosed my case He took out his flask of brandy and in the course of fifteen minutes gave me fully half a pint without a drop of water Within another ten minutes I got up and shook myself and declared my ability to walk I boasted of having on a pair of brandy boots I walked forward without a trace of nausea, crossed the "Mauvais pass" without assistance or mistake, and arrived at the Hotel Montainvert after three hours hard walking, and after a long sleep awoke to eat the heartiest breakfast of my life It is safe to say *that the sensibility of my nerves was not reduced,* that the distribution of oxygen was not retarded, that the natural tissue metabolism was not interfered with On the contrary, my nerves were stimulated, my heart action was excited and my whole body and muscular system was raised to a condition wonderfully like health

Let me give one more personal experience Just eleven years ago I had been greatly overworked and had lost much sleep I was in close attendance upon a patient who died from pneumonia of a most malignant type I paid him a long visit a few hours before his death and although boasting to a friend of my perfect health I remarked on getting into bed that I felt a curious sensation in my right loin as though I had suffered from a blow I slept well but next morning the pain returned Then cough, hemoptysis, rapid pulse Temperature 104 degrees and in twenty four hours all the symptoms of double pneumonia were manifest At the age of 62, with an intermittent pulse the prospect was not flattering On consultation, alcohol was the remedy prescribed I took half an ounce of brandy or whisky every two hours The pulse became regular and the symptoms slowly declined I took the dose religiously for nine days and my recovery was perfect I am to day in my seventy fourth year Only a few weeks ago I climbed 3 200 feet in three hours and a quarter, without the least distress, and the day afterward walked for at least seven hours I do not remember the time when I have not been accustomed to drink wine with my meals For over fifty years I have drank wine every day, and I may say truly in the last forty years I have not willingly drank forty glasses of cold water to allay my thirst After such personal experiences, (and indeed I can relate even more startling results in the case of patients) I may surely be pardoned in doubting the apparent facts which Dr Davis regards as well established

Yours very obediently,
J H STALLARD, M B Lond, M R C P, M R C S,
and late Physician to the San Francisco Polyclinic

PUBLIC HEALTH

Low Death Rate —Computed on the figures of the school census of April, 1894—which fixed the population at 1,567,727, or 32,273 less than the population of 1893—the death rate of Chicago last year was 15 1 per 1,000 The Health Commissioner, Dr Reynolds, reports 23,701 deaths from all causes, as against 27,083 during the previous year

Glanders in Havana —*El Progreso Medico* states that, while glanders has been known to exist in Havana for years, the unusual number of cases in 1894 ought to attract the attention of the health authorities The remedy is well known to science, but the authorities either don't know it or won't apply it It is not grooms alone who contract the disease, no one is safe from it, and it is often the passer by who is attacked *Il Progreso* quotes a distinguished veterinary surgeon as saying recently that 10 per cent of the 15,000 horses in Havana are affected with the disease It is not surprising then that glanders numbers more cases than any other infectious disease in that city To the cases in private practice must be added those in the Mercedes Hospital, in one ward alone clinical and bacteriologic examinations showed the presence of five cases of the disease from January to August Dr Salagridas who has charge of the ward, says glanders is favorably influenced by both yellow fever and typhoid fever he has seen three years of the first and two of the latter The journal cited urges that stables be thoroughly inspected and all diseased animals removed *and points out that in Germany and elsewhere* the government in the interest of public health pays for horses destroyed so that owners have no incentive to hide diseased animals, and adds that in really civilized countries human life is held at its true value but in the present case while the indifference is general, the fault is in great part due to the authorities The professional press has sounded the alarm many times, but the danger is as serious and as menacing as ever

Specific Organisms of Vaccinia and Variola—The etiology of smallpox is a problem of such interest that any contribution to its study of *prima facie* merit should be brought promptly to the attention of the bacteriologic world During the past year Mr J Christian Bay bacteriologist of the Iowa State Board of Health has carried on a series of investigations concerning the specific organisms of vaccinia and variola a detailed account of which has been forwarded to the *Medical News* Through the *courtesy of the author the* JOURNAL is enabled to present a summary of the important points of his paper During the past thirty years many bacteriologists—among whom the author cites Chauveau, Hallier Luginbuehl, Beale, Cohn Weigert, Klein Klebs, L Voigt, Pfeiffer, Hlava, Koch Feiler, Crookshank Copeman, Rille, Martin, Coze, Feltz, Baudoin, Plaut, Zimmermann, Toussaint, Buttersack Landmann and Dräer—have investigated the smallpox and vaccine lymph, and some of them have found one or more cocci to which they ascribed the role of *causa morbi*, others were of the opinion that animal parasites caused the disease, and a few—*e g*, Plaut and Zimmermann for sheep pox—have isolated bacilli of different species, common saprophytic bacteria *none of which seemed to have any causal* relation to vaccinia or variola Plate cultures after Koch's method reveal no organisms in vaccine or smallpox lymph, neither do microscopic examinations The author prepared test tube cultures in Pasteur's fluid and in bouillon rendered alkalin with Cl Na, vaccine points were dropped, or samples of smallpox deposited in the medium under the usual precautionary measures On the first day after incubation the medium became slightly turbid and, during the second and third days, a grayish, folded, greasy looking film developed on the surface Microscopic examination showed the presence of bacilli, measuring 0 6 to 1μ by 0 2 to 0 3μ, they are colorless, motionless and bear one spore at each end of *the cell—hence the organism has been referred to* Kern's genus *Dispora* and named *Dispora variolæ* It was found, with three exceptions, in sixty five cultures from vaccine points and in forty cultures from the lymph of confluent smallpox, two cultures failed to respond to inoculation The *organism is somewhat polymorphous, in old cultures* the cells are arranged to a great extent in threads, the dimensions of the cells also vary as above stated Spores are found being formed at the beginning of the cell development and the number of spores constantly increases as development progresses, in old cultures very few vegetative cells are found *while the number of free spores* largely predominates The author is of the opinion that the organisms, cocci, described by others as *Micrococcus vaccinæ*, *M variolæ*, *Microsphæra vaccinæ*, etc, are identical with the spore stage of his *D variolæ*, and believes that his observations and conclusions as to the facts of the spread of smallpox warrant the assumption that the spores are the main source through which the disease, itself, as well as vaccinia, is reproduced Mr Bay is further investigating the results of inoculations upon animals and experimenting with a view to the preparation of vaccine in the laboratory It is in this last object that health officers and sanitarians will be most directly interested and hope that Mr Bay's claims may be substantiated by other investigators

Summary of Smallpox in 1894—From reports of JOURNAL correspondents and other sources the following summary of the diffusion of smallpox in the United States in 1894 has been compiled

Arizona Nogales, 1 case

Connecticut Manchester Winchester, Canaan, Norfolk, South Norwalk, Waterbury, New Haven, Putnam, Bridgeport, nine places, 52 cases, 11 deaths

District of Columbia Washington, 18 cases, 7 deaths—one new case and two deaths, December 31

Georgia Atlanta, Senoia, two places, 12 cases

Illinois Alton, Aurora Bloomington, Braidwood, Chicago, Danville, Decatur, Downer's Grove, Drainage Canal, East St Louis Race Track, Edwardsville, Elgin, Evanston, Freeport, Galesburg, Genoa, Greenbush, Harvey Havana, Hoopeston, Joliet Jonesboro, Kingston, Libertyville, Lombard Maywood, Morris, Paris, Peoria, Rockford, Rock Island, Roodhouse Round Grove, Spencer, Sandwich, Toluca, Tolono, Upper Alton, thirty nine places, 3,209 cases, 1,050 deaths, in Chicago, 3062 cases 1,020 deaths, in the State ex Chicago, thirty eight places 147 cases, 21 deaths

Indiana Fort Wayne, Kewanna South Bend, Crown Point, Indianapolis, Fulton County, Marshall County, Pulaski County, Wayne County, Johnson County, Blackford County, Lake County, DeKalb County, Kosciusko County, Whitley County, Grant County Walkerton, seventeen places and counties, 105 cases, 17 deaths

Iowa Tama and six other places

Kansas Atchison, 41 cases, 9 deaths

Kentucky Louisville, Paducah, two places, 20 cases

Louisiana New Orleans, 5 cases 1 death

Maine Kennebec, Bangor, two places, 3 cases, 1 death

Maryland Baltimore, Glymount, two places 9 cases

Massachusetts Boston, Chelsea, Springfield, Worcester, Lawrence, Yarmouth, South Boston, Lynn, Waltham, nine places—182 cases, 30 deaths in Boston

Michigan Otsego, Crystal Lake, Otsego Tp, Menominee, Ishpeming, Kalamazoo Jackson, Marquette, Bay City, Muskegon Grand Rapids, Sturgis, Napoleon, Summit, Detroit Allegan St Joseph, Flint, Frenchtown Tp, Farmington Tp Ridgeway Tp Berlin Tp Ypsilanti, Pontiac, Macomb Tp,, Clayton Tp Manchester, Rivers Tp, Norvill, Cheboygan, Royal Oak, St Johns, Sewaba Tp, Adrian Tp, Danby Tp, Watersmeet Tp, thirty six places, 180 cases, 41 deaths

Minnesota St Paul Duluth Two Harbors, Red Clover Tp La Crescent Tp, Belle Plaine, Brainerd, seven places, 29 cases, 3 deaths

Missouri St Louis, Mountain Grove, two places, 21 cases, 2 deaths

New Jersey Hoboken, Jersey City, Newark, Paterson, four places

New York New York city Brooklyn, Red Hook, Tivoli, College Point, Walworth, Manchester, Ontario, Yonkers, Utica, Sing Sing, Palmyra, Rochester (near), Geneva, Ithaca, Mt Vernon, Stapleton, Salina, Newburg, Port Jervis, Nelsonville, Binghamton, Wayne County, Syracuse, Schenectady, U S revenue cutter *Manhattan*, five ocean steamers *at quarantine*—one on December 31, twenty six places, 1,690 cases, 442 deaths

Ohio Springfield, Columbus, Lima, Dayton, Worthington, Toledo, Cleveland, Deerfield, Cincinnati nine places

Pennsylvania Oakdale, Jeannette Maconaqua, Reading, Fritztown, West Leesport, Gibraltar, Friedensburg Mechanicsburg, Carlisle, Wilton Grove, Pittsburg Williamsburg Tyrone Forges, Elk Co Williamsport Philadelphia, Shamokin, Dagus Mines Riverside, Danville, Lee, Shickshinny Muncy, Lewistown, Jerseytown, Harrisburg, Lewisburg Blandon, Walnuttown, Liedel's, Hyde Park, West Hempfield, Derry Tp, Dorrancetown, Burt, Carroll Tp Shermansdale, McKeesport, Towanda, Ridley Park, forty one places, 1,066 cases December 18 there were 40 cases and 100 houses in quarantine in Philadelphia

Rhode Island Providence, 5 cases, 1 death

Tennessee Memphis, Nashville, Chattanooga five villages near Nashville eight places, 25 cases

Texas Victoria, San Antonio, Texarkana, El Paso, Cleburne, *five places, 106 cases, 16 deaths*

Vermont Brattleboro, Pomfret, Washington, three places

Virginia Southwest Virginia, Lunenberg, Shendon, three places, 48 cases

West Virginia Lewisburg, 12 cases

Wisconsin Janesville, Milwaukee, Juneau, Sheboygan, Portage, *Jefferson, Elkhorn,* DePere, Camp Lake, Beloit, Lewisburg, Neenah, Fort Howard, Madison, West Superior, Green Bay, Manitowoc, Dodge County, Waukesha, Merrimack, Menasha, Wausau, Juda, Granville, Greenfield, Wauwatosa, Raymond, Lake, Dover, LaCrosse, Two Rivers, Liberty, Oneida Reservation, Milwaukee Tp, Ellsworth, Wonewoc, Franklin, South Milwaukee, Muskego, Spring Prairie, Beaver Dam, Rochester, Rhinelander, forty-three places, 1,866 cases, 399 deaths—in Milwaukee, 1,161 cases, 317 deaths, in the State *ex* Milwaukee, 705 cases, 82 deaths, and at the end of the year Two Rivers and Rhinelander *were the only infected places outside of Milwaukee*

The foregoing, though by no means complete, shows the wide extent of territory invaded—twenty-five States, one Territory and the District of Columbia a total of 282 infected localities, with an aggregate of 8,719 cases and 2,084 deaths reported In five States from which the reports are most complete, viz, Connecticut, Illinois, Michigan, Minnesota, and Wisconsin, there were 132 infected localities, with a total of 1,113 cases, exclusive of Chicago and Milwaukee An examination of the individual reports leads to the belief that there were fully 10,000 cases of the disease with an aggregate of 3,000 deaths during the year Twelve infected ocean steamers were detained at the quarantines at Boston, Darien, Ga, Delaware Breakwater, Mobile, and New York—the last being a Thingvalla liner at the port of New York, December 31

BOOK NOTICES

Atlas of Clinical Medicine By BYRON BRAMWELL, M D, *Assistant Physician to the Edinburgh Royal Infirmary,* etc Vol III, Part 1 Edinburgh Printed by T and A Constable at the University Press 1894

Part I of Vol II of this excellent work has appeared The high standard is maintained as in the past The contents are 1, *The Thyroid Treatment of Skin Diseases*, 2, Poliomyelitis Anterior Acuta, 3, A Remarkable Case of Cancer of the Breasts, Spleen and other Organs

There are several well executed plates accompanying, showing psoriasis, lupus and ichthyosis treated by thyroid extract, also, two plates showing drawings in cases of poliomyelitis

Transactions of the State Medical Society of Wisconsin For the year 1894 Madison, Wis Cl, pp 504

This volume is handsomely printed and contains all the papers read at the last meeting of this flourishing society held at Milwaukee, under the Presidency of Dr B C Brett of Green Bay

It is well edited by Secretary Sheldon and the society is to be congratulated on the excellence of the papers and the typographical appearance of the volume Dr Reineking, *Chairman of the Committee on Surgery, began* his annual report with an appreciative sketch of the lamented Billroth The next annual meeting will be held at West Superior, Wis, June, 1895 Almon Clarke, M D, of Sheboygan, is President and C S Sheldon, of Madison, Secretary

The Medical Register of New York, New Jersey and Connecticut for 1894-5 Published under the supervision of the New York Medico-Historical Society JOHN SHRADY, M D, Editor Volume XXXII G P Putnam's Sons 1894

This ever-welcome Annual contains the usual guide-lists and information, as to current medical history, for the three States named The book resembles closely its recent predecessors, being bound in green cloth, as comports with the nickname or quick name that it has held for more than a quarter of a century The type is newer and the paper cleaner looking than some former issues, but the general make-up follows the traditions of the book The only illustration proper to the work itself is a photogravure of the late editor, from 1878 to 1893, Dr William T White The likeness will be readily recognized by members of the ASSOCIATION as belonging to a frequent though quiet fellow member The information regarding the hospitals and other institutions in and around New York is arranged for local reference chiefly, but it can be made available to others at a distance who have need for consultation or post-graduate training at the metropolis

Every library of considerable size throughout the country would do well to have a copy of this book for the reference table This book stands for the best interests and influences of the region whence it issues, and its supporters are the filial sons of the National ASSOCIATION, Dr John Shrady, the new editor, is not altogether new to the work, since he was one of the earliest of the compilers, when the book was much less of an institution than it is now He has been identified with the work of the Medico Historical Society, and with medico-historical research in New York during his whole professional life He has many qualifications for the editorial charge of this valuable annual The delayed issue of the volume this year should be remedied, if possible, in 1895, the profession is ready to welcome any annual directory if it appears on or before June 15, if the date is later than that, its members begin to grow more and more querulous, and some become indifferent

Diphtheria Observations on its History and Progress, more especially in New Orleans By JOSEPH JONES, M D, LL D, New Orleans Pp 28, paper 1895

In this brochure Professor Jones makes some valuable suggestions on the causation of diphtheria, its pathology, treatment and prevention He concludes as follows

After careful examination of all the available facts relative to the origin, treatment and prevention of diphtheria, *I have come to the conclusion*

1 That the United States Government is the proper authority to whom the people should look for the institution of the proper measures for the eradication, treatment and prevention of diphtheria, and similar infectious and contagious diseases

2 The Congress of the United States should pass the necessary acts empowering the President to appoint three Commissions, composed as follows

(*a*)—A Commission selected from the surgeons and assistant surgeons of the Regular Army, empowered to make the necessary investigations, furnished with the necessary means to establish the necessary bacteriologic laboratories in the large cities, for the manufacture and continuous supply to the citizens of the United States of the antitoxin serum for the treatment of diphtheria, yellow fever and similar diseases

(*b*)—A Commission selected from the surgeons and assistant surgeons of the medical officers of the United States Navy, empowered to institute the necessary investigations, furnished with the necessary means to establish the necessary bacteriologic laboratories in the large cities, for the manufacture and continuous supply of the antitoxin serum for the treatment of diphtheria, yellow fever and similar diseases

(*c*)—A Commission selected from the surgeons and assistant surgeons from the United States Marine-Hospital service, empowered to institute the necessary investigations, furnished with the necessary means to establish the necessary bacteriologic laboratories in the large cities for the manufacture and continuous supply of the antitoxin serum for the treatment of diphtheria, yellow fever and similar diseases

These Commissions, after thorough organization, should act in entire accord with each other, and with the State Boards of Health, or with *similar commissions* appointed by the Governors of the individual States

It is evident that the United States possesses unlimited supplies of horses in its cavalry aud transportation service, and it is farther evident that with such an arrangement there need never be a scarcity of the antitoxin supply for the treatment of diphtheria, yellow fever and similar diseases

NECROLOGY

W J Hall, M D, an American physician, residing in Corea, during the past three years, is reported by a cablegram dated December 1, to have died from an attack of typhus fever The last intelligence by mail from him had reference to his helpful visits, as a volunteer surgeon to one of the battlefields in Corea Dr Hall was a graduate in medicine at the Bellevue Hospital Medical School, and was an East Side missionary for two or more years to fit him the better for work among the poorer Orientals He was only 35 years of age at the time of his last illness, which must have been rapidly fatal ——Thomas P Norris, M D, formerly a coroner of Brooklyn N Y, died from renal disease on Dec 21, 1894 He was a graduate of the Medical Department of New York University in 1851, and had been in Brooklyn for the greater part of forty years He was for a time however, a practitioner in East Tennessee He was a native of Ireland but came to this country when he was about 10 years old He was a good political speaker, and his services were sought often and occasionally rewarded He held an important appointive office, that of Commissioner of Charities His final illness was somewhat protracted ——Sylvester Mead, M D of Greenwich Conn died December 11, aged 88 years He was believed to have been the eldest living alumnus of the Yale Medical Institute, he having graduated therefrom in the year 1829 Dr Mead died in the harness having continued in the practice of his profession sixty five years ——Thomas H Parkes, M D, of Brooklyn, N Y, died on December 21 He was an American by birth, of English parentage, and was 31 years of age He died suddenly from edema of the glottis Two hours before his death he was present in good health at a social gathering He was a graduate in the year 1890 at the Long Island College Hospital ——R H Cummins, M D, of Wheeling W Va, died December 13 of diphtheria, contracted while in attendance upon several severe cases of that disease He was a graduate of the University of Pennsylvania and a man of fine character He met death fearlessly, a martyr to his chosen calling ——George Jewett, M D, of Fitchburg, Mass, December 16 aged 68 ——Joseph W Taylor M D, of Long Branch N J December 18, aged 36 —— J M Cook, M D, of Muskegon, Mich, December 21 ——Ward Cook, M D, of Pendleton, Ind, December 24 aged 87 He had practiced medicine for fifty seven years and was a member of both the county and State medical societies —— J M Hopper, M D, of Rutherford, N J., December 18, aged 70 ——J M McMeen, M D, of Danville, Ill, December 28, aged 65 years ——Dr Lezenber, at Logansport, Ind, December 24 ——F H Wilson, M D, Leavenworth, Kan, December 25, aged 66 ——Henry M Hooper, M D, Rutherford, N J, December 21

SOCIETY NEWS

The Muskingum County (Ohio) Medical Society held a meeting in Zanesville, December 16

The Frontier Medical Association held its semi annual meeting at Huntington, Que, December 19

The Central Wisconsin Medical Society held a meeting in Janesville December 27

The Northern Tri State Medical Association met at Hillsdale, Mich, December 20 Attendance one hundred

The Binghamton (N Y) Academy of Medicine held a meeting December 18 The program was interesting and the attendance large

The Academy of Medicine and Surgery of Richmond, Va, held a meeting December 16 The following officers were elected for the ensuing year President, W S Gordon, First Vice President, V W Harrison, Second Vice-President, R D Garcin, Third Vice President, A L Wellford, Secretary and Reporter, Mark W Peyser, Assistant Secretary, W S Beazley, Treasurer, J T Woodward, and Librarian, J I Crane

Northwestern Ohio Medical Association—The forty ninth semi annual meeting of the Northwestern Ohio Medical Association closed its session at Lima, Ohio, December 19 The following officers were elected President, J K Woods, Lima, Vice President, Joseph Sager, Celina, Second Vice-President, W E Hoover, Lima, Secretary, Chas Graefer, Sandusky The next meeting will be held in Findlay June, 1895

The Kansas City Medical and Surgical Society held its annual election of officers December 22 The following were elected J G Henry, President, J W Foster, First Vice President, Z Nason, Second Vice President, Theodore W Schafer, Third Vice President, C M Stemen, Secretary, Edward Schaefer, Assistant Secretary, P C Palmer, Treasurer

MISCELLANY

Association of Erie Railway Surgeons will hold their annual meeting January 10 at Youngstown, Ohio, Dr C B Kibler, President

College of Physicians and Surgeons—[By telegraph to this JOURNAL] The annual election of the College of Physicians and Surgeons of Philadelphia was held Jan 2, 1895 Prof J M Da Costa was elected President, and Prof John Ashurst Vice President, for the ensuing year

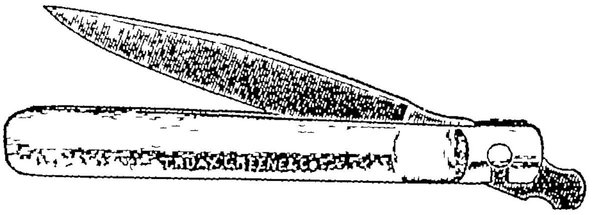
Honors for Pasteur—At a recent meeting of the Municipal Council of Paris, the Superior Normal School was given 1,500 francs for the purchase of a bust of Pasteur and the Council decided that the Rue d' Ulm should be named Rue de Pasteur

Souchon's Anesthetizer—Dr Souchon applied for a patent for his anesthetizer to test the originality of his invention Having succeeded, he now waives all his rights and privileges in all cases where the patent is used for medical purposes only

Centenary of Vaccination—The German Institute for Vaccination is preparing to celebrate, in 1896, the centenary of Jenner's discovery It is proposed to have at the same time an exposition of all articles concerning vaccination—old and new instruments and methods of preserving vaccine, original manuscripts on variola and vaccinia, medals, portraits and autographs of celebrated inoculators, vaccinators and anti vaccinators

Action of High Pressures on Bacteria—Roger has studied the action exerted on bacteria by compression of the liquids containing them The pressure varied from 1,000 to 3,000 kilos per cubic centimeter The staphylococcus aureus and the bacillus coli were not affected, the former retaining its chromogenic powers At 3,000 kilos the streptococcus had its vegetability and virulence affected The anthrax with spores after supporting a pressure of 3,000 kilos grew about as well as before, but its virulence was slightly diminished The anthrax without spores, on the contrary, was strongly attacked both as to vegetability and virulence, the cultures which had supported 3,000 kilos did not die for eighteen or nineteen days The author thinks—*Le Progres Medical*—that we may thus be able to create a chronic disease analogous to that which Phisalix obtained by inoculation with vaccine from animals with anthrax

A New Instrument —Maclean's general utility knife may be carried in the pocket like a common penknife and may be useful for *any surgical procedure* from tracheotomy or tonsillotomy to laparotomy or amputation at the hip joint It is so constructed as to be very easily rendered aseptic, and inclosed in a chamois skin envelope, it can be carried in the pocket with absolute safety Suggested and recommended by Donald Maclean, M D



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Dr S S Thorne, President National Association Railway Surgeons, Toledo, Ohio

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With my best wishes for a continuance of the prosperity of the National Association of Railway Surgeons, and the future success of *The Railway Surgeon*, its official organ, I have, my dear Doctor, the honor to remain,

Very respectfully yours, R Harvey Reed, Editor

Foot and Mouth Disease in Germany[1]—The flap and foot-rot (*Maul- und Klauenseuche*) has again broken out among the farm animals in central Germany, notably the Voigtland and Saxe-Altenburg This is more unfortunate for the farmers in this part of the country, as only two years ago the same disease reduced the stock considerably, and as the drouth of 1893, with its subsequent fodder scarcity, compelled the farmers to slaughter large numbers of their cattle Though the local authorities are doing their utmost to prevent an extension of the disease, they have, as it appears, not yet succeeded, for nearly every new issue of the official papers mentions new cases The frequent appearance of the disease in the same locality is, certainly, no evidence of a healthy condition of farm animals

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NEW ELECTRIC AMBULANCE —The new electric ambulance is out of the shops, and was given a trial with members of the Board of Health as passengers It went into regular service January 1 This is designed to take the place of the ambulance car which was put in operation last summer on the Union Depot Line It runs by the Female and City Hospitals and has been used largely in affording transportation to convalescing patients leaving those institutions, as well as taking patients not disabled to those institutions It is an ordinary car reserved for this special use, and runs on a regular schedule *from Tower Grove Park to the switch* at Twelfth and Pine Streets The new electric ambulance was made and fitted up specially for the purpose and has every ambulance equipment necessary It is the intention to run switches into the grounds at the City and Female Hospitals, and also to construct an extension from the present terminus of the Tower Grove Division on Arsenal Street to the Poorhouse and Insane Asylum It is probable that Dr A W Latimer, who has been in charge of the former ambulance car, will remain in charge of the new service —*Republic*

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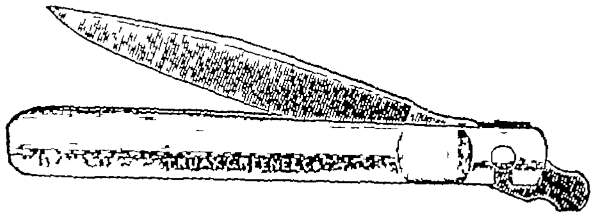

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"SUNDOWN DOCTORS" CHECKED BY COMMISSIONER LOCHREN — The Commissioner of Pensions has issued an order that will prevent clerks in the Bureau, who are physicians, from practicing medicine after office hours In this branch of the government service, as well as in others, there are a number of graduated physicians who attend patients after office hours, and are known as "sundown doctors"

The order states that if any clerk or employe of the Pension Bureau shall attend patients as a physician or medical adviser, it will be regarded as sufficient ground for recommending that his further services in the Bureau will be no longer required The danger of bringing contagious diseases to the other clerks and employes, and allowing such diseases to spread in the community is said to be obvious, and has been manifested in recent cases Moreover, a calling which is likely to require clerks and employes to be up at night, and to demand their prompt attention at all times, is regarded as inconsistent with the proper discharge of their duties in the Bureau The issuing of the order was caused by a negro doctor, named Johnson, employed in the Bureau, attending a smallpox case for which he was suspended While no official notification has yet been issued, it is almost certain that a similar order will be made including the entire Interior Department, not only physicians, but those who engage in any outside work of any other character This, it is said, will not apply to employes pursuing studies at night The regular profession, to a man, naturally indorse this action of the Commissioner

Hospital Notes

DR B D EASTMAN has been reappointed Superintendent of the Kansas Insane Asylum at Topeka

THE NEW FREE HOSPITAL for women, at Brookline, Mass, was dedicated January 1

ST MARGARET'S HOSPITAL —The plans for the new St Margaret's Hospital to be built in Pittsburg, Pa, are nearly completed The estimated cost of the building is $250,000

THE NEW ST LUKE'S HOSPITAL at Davenport, Iowa, will be opened February 1

E H BENNETT —By the will of the late E H Bennett, of Janesville, Wis, the City Hospital of that place receives the sum of $1,000

DR FRONTZ, of Williamsport, Pa, has been appointed resident physician to the State Reformatory at Huntington, *vice* Dr D P Miller, resigned

SAN GABRIEL HOSPITAL BURNED —Advices from Montevideo report the destruction by fire of a hospital at San Gabriel (Brazil), by Brazilian troops More than one hundred and twenty rebels perished It is said that several who tried to escape were forced back into the flames by bayonets

SPRINGFIELD (MASS) HOSPITAL ASSOCIATION —The annual meeting of the Springfield (Mass) Hospital Association was held December 16 The total number of cases treated during the year was 338

JANE C STORMONT HOSPITAL —The charter of the Jane C Stormont Hospital and Training School for Nurses, at Topeka, Kan, has been filed Mrs Dr Stormont donated $10 000 toward building the hospital

THE MANCHESTER BROWN SURGICAL HOSPITAL at Milwaukee was formally opened December 21 The hospital will be devoted exclusively to surgical cases The building has accommodations for fourteen private patients and thirty in wards There are three operating rooms, sun rooms, a diet kitchen, and a dispensary

THE ILLINOIS STATE BOARD OF PUBLIC CHARITIES has recommended special appropriations as follows, for the various State charitable institutions, for general improvements and repairs Northern Hospital for the Insane, $94,000, Eastern Hospital for the Insane, $132,000, Central Hopsital for the Insane, $42,300, Southern Hospital for the Insane, $47,720, Asylum for Insane Criminals, $6,700, Institution for Education of the Deaf and Dumb, $22,350, Institution for the Education of the Blind, $26,500, Asylum for Feeble-Minded Children, $27,400, Soldiers' and Orphans' Home, $15,800, Charitable Eye and Ear Infirmary, $12,200, Soldiers' and Sailors' Home, $53,500 Amounts asked for ordinary expenses for the next two years, and upon which the State Board is not called upon to pass, are Northern Hospital for Insane, $350,500, Eastern Hospital for Insane, $580,000, Central Hospital for Insane, $330,000, Southern Hospital for Insane, $260,000, Insane Criminals, $85,600, Institution for Education of Deaf and Dumb, $210,000, Institution for Education of Blind, $100,000, Asylum for Feeble-Minded Children, $181,000, Soldiers' Orphans' Home, $108,000, Charitable Eye and Ear Infirmary, $54,000, Soldiers' and Sailors' Home, $360,000

A NEW HOSPITAL was opened at Beaver Falls, Pa, January 1 ——A sanitarium for consumptives is to be founded at Liberty, N Y, on a 200 acre tract of land secured for that purpose ——A pleasant incident of the holiday season, was the trip Christmas Eve, to four of the large hospitals of Chicago by the choir boys of Grace Church A coach was furnished them by a generous liveryman, Mr Payne, and the boys visited St Luke's, Mercy, Cook County and the Presbyterian Hospitals, where they sang in chorus in the corridors, and greatly cheered the inmates of the institutions named —The Annual Meeting of the Directors of Hartford, Conn, Hospital was held Dec 20, 1894 Officers were elected as follows President, Dr Gurdon W Russell, Vice-President, Jonathan B Bunce, Secretary and Treasurer, Ward W Jacobs, Executive Committee, Henry K Morgan, Dr Harmon G Howe, Thomas Sisson, Committee on Finance, Jonathan B Bunce, Henry A Redfield, Henry C Dwight, Librarian, Dr William W Knight The following medical and surgical staff was appointed Dr Gurdon W Russell, chairman, Dr P H Ingalls, secretary, consulting physicians and surgeons, Dr Gurdon W Russell and Dr Ashbel W. Barrows, visiting surgeons, Dr George C Jarvis, Dr G Pierrepont Davis, Dr Harmon G Howe, Dr Melancthon Storrs, visiting physicians, Dr Horace S Fuller, Dr William W Knight, Dr James Campbell, Dr Edward K Root, ophthalmic and aural surgeon, Dr William T Bacon, gynecologist, Dr P H Ingalls, orthopedic surgeon, Dr Ansel G Cook, pathologist Dr Charles C Beach, physician to the Old People's Home, Dr Charles C Beach The Executive Committee explained the great need of further accommodations for nurses in the hospital, and the matter was referred to the Executive Committee with power to obtain plans for a building, and report to the directors

THE PUBLIC SERVICE

Army Changes *Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Dec 22 1894 to Dec 28 1894*

First Lieut A N STARK, Asst Surgeon, is granted leave of absence for one month, to take effect upon his return to Ft Sam Houston Texas

Capt JAMES D GLENNAN, Asst Surgeon, is relieved from duty at Ft Sill, Oklahoma Ter, and ordered to Ft Snelling, Minn, for duty at that post

LETTERS RECEIVED

Anderson Winslow, San Francisco, Cal, Akins, Wm T, Chicago, Ill Burr, C B, Flint, Mich

Cattell, H W Philadelphia, Pa, Conoway, W K, Ridgely, Pa

Eastman, Thos B Indianapolis, Ind, (2)

Fyke, E E Centralia, Ill, Fay, J, Altoona, Pa, Fulkerson, W D, Coffeysburg Mo

Gapen, Clark Kankakee, Ill, Green, Le Roy, Waterford, Ontario, Guelliott, O, Reims France

Hummel, A I, Philadelphia, Pa, (2) Hazelwood, A, Grand Rapids, Mich, Heise, W F C, Chicago, Ill Haines, W J, West Farmington, Ohio

Jordan, Edwin O Chicago, Ill

Kuhn G A, St Louis, Mo

Leedom, Charles Philadelphia, Pa Larkins, E L Terre Haute, Ind, Lippincott J B Co Philadelphia, Pa

Maltine Mfg Co New York City Morse F P, New York City Meyer, Theo Salt Lake City, Utah MacMonagle B San Francisco, Cal Marchand, V H, Haubstadt, Ind, Montgomery, E E, Philadelphia Pa, Morse L D Advertising Agency, New York City, Mann, Edward C, New York City, Martin F A, Chicago, Ill

Niles S R Advertising Agency, Boston, Mass

Paul Kegan Trench, Trubner & Co Ltd, London, England

Ruggles Gale Co Columbus Ohio Ramsey, R T London Ky

Steiger, E & Co, New York City, (2), Smiley, Chas W, Washington, D C Souchon Edward, New Orleans, La, Stearns, F & Co, Detroit, Mich

Thomas Homer M Chicago, Ill

Woodbridge J E, Youngstown, Ohio White, Geo W, Boston, Mass,, Wahrer C F, Ft Madison, Iowa, Würdemann, H V, Milwaukee, Wis, (2)

The Journal of the American Medical Association

Vol XXIV CHICAGO, JANUARY 12, 1895 No 2

ORIGINAL ARTICLES

HOSPITALS FOR THE INSANE—THEIR SCOPE AND DESIGN

BY EDWARD F WELLS, M D

CHICAGO

Shall the State have the custody of all its insane, or shall certain classes be relegated to county care? Shall the State care for the acute and the chronic insane separately or shall the hospital and the asylum be combined in one institution? Shall employment, especially agricultural be afforded the patients, and if so to what extent? Should epileptics be received into insane hospitals or should they be cared for in a separate institution? Should any class of the insane be 'boarded out' as practiced at Gheel, in Scotland and in Massachusetts? What should be the scope and design of the modern institution for the insane? These are questions of perennial and engrossing interest to the social economist, the legislator the executives of our States and to the public at large, and they will be considered with especial reference to the present status in Illinois as fully as the limits of this paper will allow

STATE VERSUS COUNTY CARE

Every person adjudged insane and requiring other than family care—acute or chronic, curable or incurable—should be under the control of the State This is in the line of the opinions expressed by almost every one who has given the subject any special consideration This entire ground has been so often gone over that another review may well be omitted and attention will only be asked to a limited field

In the Report of the Board of State Commissioners of Public Charities, of this State, for 1890, page 104, occurs the following paragraph —

> "In the present report and chapter will be found accounts of ten naked patients, six men and four women, in Adams County, an insane woman confined in a pen in Bond County, an insane man in Boone County who is so troublesome that the keeper is paid extra for taking care of him, a miserable pen in DeKalb County, another in Franklin County, the insane department in Fulton County is declared a nuisance which should be abolished in Jackson County three idiots, one of them an epileptic, are taken care of by an insane woman, in Jefferson County an insane woman sleeps alone in an outhouse, in Kane County where fourteen insane are locked up, they make day and night hideous, and thirteen of them are disposed to denude themselves, in Knox County a naked man was found, in McHenry County the authorities are compelled to care for a man who can not even feed himself, the new insane department in Menard County already smells to heaven, the insane department in Montgomery County is condemned as unfit for use, the same is said of that in Shelby County in Stark County two steel cages have been purchased for the insane, six by seven feet in size, in Wayne County the insane are filthy and ragged, Whiteside County has a naked insane woman on straw in a box"

Contrast this picture of county care, with its evident lack of medical supervision, of trained attendants, of facilities for classification and of suitable accommodation, with the intelligent and humane care given the insane in the four State hospitals, and there will be a ready appreciation of the force and sufficiency of some of the reasons upon which is based the opinion expressed

There can be no doubt in the mind of any reasonable person that the circumstances which made it possible, in 1890, to frame such an indictment against the county care of the insane as that embodied in the quotation above given, were largely brought about by an evasion, by the managers of the State hospitals, of the last clause of Section 3 of an Act to regulate the State charitable institutions, in force April 15, 1875, which provides —

> That, in the admission and retention of patients, curable and recent cases shall have preference over cases of long standing and that violent dangerous, or otherwise troublesome cases shall have preference over those of an opposite description

Human nature is much the same the world over, and so long as the laws permit insane patients to be returned to the counties by the State institutions, it will occasionally occur that trustees and superintendents of State hospitals, biased by self-interest, will allow patients such as those above described, to find their way back to the county asylums, the while harmless and easily cared for cases are being shown to visitors in the front wards of their hospitals The remedy for this evil lies in prohibiting, absolutely, the care of the insane at the hands of every county in the State, with the possible exception, at present, of Cook The prohibition might be omitted in exceptional instances, as for example, in the case of a mild, quiet, harmless, chronic pauper patient, who would be happier in the county almshouse, with its more elastic rules and greater freedom In such a case the patient might be paroled to the county, the latter receiving a stipend from the State institution He should, however, remain under the control of the hospital and should be visited at regular intervals by one of its medical officers The hospital should also receive regular reports from the almshouse superintendent and physician and, at least once a year, a special report from the visiting agent of the Board of State Charities

SCOPE OF THE INSTITUTION

Certain classes of the insane require institutional accommodation of a different and slightly more expensive character than that which is amply sufficient for the ordinary chronic and incurable classes Of the former may be mentioned the recent admissions, the acute cases, the weak and helpless, the sick and injured, the suicidal and homicidal, the filthy, those who denude themselves, etc These require for their care and treatment wards of smaller size and a larger proportion of superficial space, together with accommodations for a greater number of attendants—in short, *hospital* accommodation The ratio of these to the other classes may be estimated at about one of the former to five of the latter

Another group of cases would include the convalescents, the mildly insane, those with lucid intervals, the quiet, the well-mannered, etc These may, for the most part, be treated with much freedom and require, so far as practicable, home comforts Wards for their accommodation need neither hospital nor prominent custodial equipment, and only a small staff is required for their care These classes constitute about one-sixth of the insane The remaining two-thirds form the bulk of the chronic and incurable classes which need simply safe and comfortable asylum accommodations and care

COMBINED OR SEPARATE INSTITUTIONS FOR THE ACUTE AND CHRONIC CLASSES

Because a very large proportion of the insane are cases of long standing and hopeless it has been proposed, on many occasions, to care for these in separate institutions, cheaply constructed and conducted This has been urged chiefly from an economic standpoint In this connection it may be said that, as a general proposition, the cost of hospitals in the past has not been determined, in any great measure, by the character of the patients to be treated It has been shown that the proportion of patients requiring special hospital facilities, which add but little to the expense, is only about one-sixth of the whole number Is it not as reasonable to cheapen, as far as practicable, the construction of the wards for the remaining classes in connection with a general as with a special institution? Unhesitatingly, yes As a matter of fact, the cost of these institutions is governed almost entirely by their size, the cost of the central plant, the character of the construction of the ward buildings, the technical knowledge employed in formulating plans and the efficiency of administration during construction In erecting these great eleemosynary institutions there should be, in the matter of cost, a happy medium which should be earnestly sought The expenditure of vast sums for useless accommodations, expensive administration buildings or costly embellishment should be absolutely interdicted, but if this wasteful extravagance is to be so severely deprecated, what words shall we use in condemning the criminal parsimony which erects flimsy fire-traps—lacking only time and opportunity for affording a horrible holocaust of the helpless insane wards of the State?

For practical purposes, insane hospitals, in their construction, may be divided into three classes —1, ordinary, or quick burning construction, 2, slow burning, or semi-fireproof construction, 3, strictly fireproof construction Justice, humanity and true economy should prevent the erection of buildings of the first class Buildings of the second class may be allowable, provided the roofs and attics are made indestructible, the buildings not more than two stories in height and with a proper arrangement of rooms and exits The recent and remote experience of this State, a correct appreciation of the obligations of the State to those whom it compels to inhabit these structures and a true economy point unwaveringly toward the third class as the proper one to be adopted Fortunately the comparatively small additional expense of fireproofing buildings places this form of construction within the reach of, certainly the great State of Illinois Generally speaking, it may be said of buildings for the insane that if they are very cheap they are not safe, and if entirely safe they can not be very cheap

The first, and in many respects the most notable example of the establishment, on any considerable scale, of a separate institution for the exclusive use of the chronic and incurable insane was that at Willard, in New York This asylum was opened in 1869 and its capacity gradually enlarged to 1,938 It has 904 acres of land and the estimated value of lands, buildings and equipment is $1,541,000, or a per capita rate of $795 The character of some of the construction may be inferred from a statement to the State Commissioners in Lunacy, in 1891 —

> "A great deal was done during the year in the way of extraordinary repairs The greater part of the foundation walls of detached group No 2 were taken down and rebuilt" "A portion of the buildings of this institution was formerly the property of the old State Agricultural College"

In 1881 the State of New York established, at Binghamton, a second asylum for the chronic insane This institution has 1,057 acres of land and a total valuation of $759,375 The capacity is 1,050, thus giving a per capita cost of $723

These two asylums for the chronic and incurable insane were never satisfactory to patients, their friends or the medical officers of these and the other hospitals of the State, and in 1890 the project of the separate care of these classes was definitely abandoned by the Legislature These hospitals now admit all classes of the insane and the other six State institutions retain their chronic cases Dr T S Armstrong, late superintendent of the Binghamton Asylum, in his report for 1888, mentions one of the objections met with as follows —

> "Many patients coming to this institution get the idea that they are incurable (as many of them are), and that they must remain here so long as they live To them it blots out all future prospects of recovery, and of a return to their home and friends The mental, moral and physical effect of this is most unfortunate"

The Legislature of Massachusetts, in 1890 and 1892, authorized the building, at Medfield, of an asylum for the chronic insane, with a capacity for 1,000 patients and to cost, exclusive of expenses for land and administration, $500,000 In order to keep within the appropriation, buildings were erected which, when nearly completed, were condemned as being too unsafe for occupancy To make the fire traps safe it was found to be necessary, at enormous expense, to replace the hollow wooden partitions by brick and terra cotta, the wooden supports of the floors and roof by iron beams and columns, to excavate for additional foundations, to provide additional means of exit in case of fire, etc It is safe to say that these changes, together with the suits for damages which were expected to follow, will bring the total cost to a point far beyond the original estimates

Pennsylvania began, in 1891, at Wernersville, an asylum for the chronic insane, with a capacity of 800 It has only recently been opened The State Committee on Lunacy say, in their report for 1892, in considering its success —

> "The success of this asylum will greatly depend upon the appointment of the medical officer and his subordinates All such officers should be shown to be in harmony with the theory of the separate care of the class for which the institution is intended"

The above four instances are the only examples, so far as my information extends, of the separate care, upon a large scale, of the chronic insane in institutions especially established for this purpose by any of the States Of these, two have been abandoned after trials of twenty-two and nine years, respectively, one has been inaugurated within the past few weeks, and one is yet in process of construction

The department for the chronic insane of the Worcester hospital and the county asylums of Wisconsin are not considered germane to this subject Of the latter Dr Walter Kempster says —'The so called Wisconsin plan' does not meet the conditions which an enlightened people demand, and sooner or later will be supplanted by some such management as the great State of New York has wisely adopted, and which I believe to be just and right "

The many arguments against the separate care of the chronic insane have been advanced so often and so forcibly during the past thirty years that they require at my hands no extended mention It must be clear to any intelligent mind that every advantage of economical provision and maintenance, of comfort and occupation, which the chronic insane may have in separate asylums may be afforded them in hospitals for all classes, and further that if any division of this kind will cost less for the chronic, it will add correspondingly to the cost for the care of the acute cases

AGRICULTURAL EMPLOYMENT

It has always been recognized more or less fully, that occupation is useful for the insane Thus the ancient Egyptians treated their insane by "amusement, occupation and healthful habits' It was occupation, especially in tilling the soil that has made the Gheel colony a possibility and in the present century the advantages of having a large farm attached to hospitals for these classes have been fully appreciated since 1821, when Esquirol established his farm and called attention to the benefits derived therefrom In this country it is a firmly established custom, from which reason and experience would not warrant a departure The amount of land attached to a few of the leading hospitals, together with the proportion per patient, is herewith given —

State	Hospital	Acres	Capacity	Per patient
Massachusetts	Westborough	332	400	83 acres
	Danvers	250	863	29 "
"	Northampton	493	470	1 05 "
	Taunton	172	808	21 "
	Worcester	438	650	67 "
New York	Utica	225	700	32 "
	Poughkeepsie	[illegible]	830	76
"	Middletown	281	675	41 "
"	Buffalo	207	525	.38 "
"	Ogdensburg	950	1 500	63 "
"	Rochester	[illegible]	300	11 "
Indiana	Indianapolis	160	1,524	10 "
"	Evansville	160	400	40 "
"	Richmond	300	431	70 "
Minnesota	Rochester	480	630	76
	St Peter	673	910	72 "
Iowa	Independence	580	800	72
Illinois	Jacksonville	160	1 180	13 "
	Elgin	710	1 100	64 "
"	Kankakee	840	2,000	42 "
Totals and averages, 21 hospitals		7 853	16,621	47 acres

In my opinion an hospital intended for all classes of the insane should have at least one-half acre of good arable land for each patient, and double this amount would not be excessive

In regard to the proportion of male patients—of mixed classes—who are able to work upon a farm, statistics give us no reliable information As the result of much inquiry and personal observation, I am of the opinion that the number of these patients who are able to work and who would be benefited by out-door employment is much larger than is generally supposed It may be reasonably assumed that, in round numbers, 25 per cent of hospital patients are obviously unfit for such employment, and of the remainder probably two-thirds could be advantageously employed in this manner The spirit of our people is opposed to employing women at farm work, but an equal proportion of female patients may be given, in other directions, suitable and healthful employment Useful employment is pleasurable and remediable to the insane while enforced idleness is a grievous punishment Experience has long since demonstrated that properly regulated employment, together with an abundance of good food are prime factors in bringing about the result of a healthy, quiet and contented hospital How often has not every one who has had practical experience with the insane seen restless, excited and sleepless patients become quiet, contented and sleep like babes under the influence of interesting occupation and a liberal dietary !

EPILEPTICS

Epileptics who are insane should be cared for in hospitals for the insane, rather than in institutions for epileptics If this point is conceded the erection of an institution for epileptics would not relieve the overcrowding in the hospitals for the insane The fact, however, that the non-insane epileptics require a special care which can not be given them in the county almshouses, renders it highly desirable that such of these as are public charges should be given a State institution for their care Such an institution should be as largely industrial as possible and might be made nearly self-supporting According to the Report of the Board of State Charities for 1892, there were in the county almshouses of this State, 247 epileptics—140 males and 107 females These, together with the purely epileptic in the Institution for the Feeble-Minded, and those awaiting admission into the latter, would be sufficient to fill a large institution

BOARDING-OUT SYSTEM

In the legendary period of history an Irish maiden fled to Flanders to escape the persecutions of a cruel father She was here discovered by her unnatural parent and after suffering great indignities at his hands died and was buried in the chapel at Gheel, near Antwerp The patient fortitude displayed by the young girl led to popular sympathy and, finally to her canonization as Saint Dympna By some means, not now clear, the belief became prevalent that miraculous cures of those affected with mental disorders were brought about by worshiping at the shrine of St Dympna, and as early as the seventh century the insane began making pilgrimages thence, hoping to find relief from their infirmities These found entertainment, during their sojourn, in the houses of the neighboring peasants In some cases their stay was greatly prolonged and in not a few instances they were abandoned by their friends and relatives Many peasant hosts continued to keep these abandoned lunatics and, to lighten the burthen of enforced hostship the guest was required to assist in the peasants' work In some cases, also, the poorer pilgrims were received as guests conditioned upon their performing services to pay, wholly or in part, for their keep As time passed it became apparent to the peasantry that the care of the insane was profitable to the community, both directly from the money paid by those able to pay and from the service rendered by those unable to pay in money Unfortunately there accumulated a class too poor to pay and unable to work, and the burthen thus produced was relieved by the State paying an annual stipend for their keep In this manner, after centuries of gradual development, has been formed the peculiar community of Gheel, wherein peasants receive into their homes, as guests, the insane and are recompensed therefor by a stipend from the State, the estate of the patient or by his labor

In 1851 the Belgian government assumed control of the insane at Gheel, established an infirmary, provided for supervision and proclaimed regulations for the host-guest relationship of peasant and patient The village embraces a large agricultural district and contains about 11,000 inhabitants, including 1,800 insane The latter are, for the most part, accommodated in the homes of the peasants, not more than two of each sex being allowed in one house The system seems to be locally satisfactory

The success of the Gheel colony has led to the query whether this boarding out system, modified to meet local requirements, might not be advantageously adopted elsewhere Two lunacy boards, notably—those of Scotland and of Massachusetts—have answered this question affirmatively and in both localities the system has been in operation long enough for us to judge its results

In Scotland, where the boarding-out system has been in vogue a great many years, it has met with a fair measure of success As a rule, patients are dispersed and are not concentrated in villages In some instances, however, the harmless and incurable insane of the larger centers of population, as for example Edinburgh and Glasgow, are placed, to the number of ten to fifty in certain villages, but the practice is not considered desirable Not more than four patients are permitted in any one house, but the actual number scarcely ever exceeds one or two They are regularly visited by the visiting agents of the Lunacy Commissioners, and are under the control of these officers So long ago as January, 1875, Sir James Coxe, one of the Commissioners, in a letter, says —

> "There is a growing difficulty in procuring and retaining suitable accommodations As a rule, the chronic patients removed from asylums are sent home to their parishes to live with friends "

This difficulty of finding suitable homes for those having no friends, willing to assume their care, has increased rather than diminished, and the Commission, in their report for 1884, make special mention of the fact —

> It was being forcibly recognized in Scotland that great care was required in the selection of households in which lunatics could be safely and advantageously "boarded out " It was realized that if the system was not to be discredited, more and extraordinary care would be needed in the sending from the asylums only suitable cases and finding for these congenial homes It had been noted that where the family as a whole were uncongenial to the temperament of the patient the latter was often soon returned to the asylum in an excited and miserable state It could not be doubted that, in some cases at least, mischief may be and is done by "boarding out" harmless lunatics in households where they are exposed not simply to privations, but to irritation and petty grievances hard to bear

With the most strenuous exertions it has never been possible to get out, in this manner, any large proportion of the insane, notwithstanding the well-known docility of the Scotch lunatic

Massachusetts began, in 1881, to employ the "boarding-out" system in the care of a small portion of her insane

> During the first year 5 were "boarded out," during the second year the average number out, was, 21, third year, 60, fourth year, 113 fifth year, 94, sixth year, 126, seventh year, 142, eighth year, 168, ninth year, 164 Of the forty-seven thus sent out in 1892 forty-three were placed out for the first time Of these, seven were returned to the hospital, two from persistent use of bad language, four for non conformity to family life and requirements, and one because of frequent elopements All of these, upon their return to institution life, immediately resumed their former quietude and readily acquiesced to existing rules

Previous to making the change from institution to family life it is the custom to obtain the consent of the patient, if sufficiently intelligent, of the friends, and, if a pauper, of the overseers of the poor Of this phase of the subject the Board of Lunacy, in their report for 1893, says —

> "It not infrequently happens that patients who appear suitable for family life object to the change, being fond of the regular and pleasant life at the hospital, or their friends think the change unwise, or overseers of the poor object, both on the score of economy and dislike of the system More women than men are boarded out, and are generally preferred to men as boarders Applications for boarders are filed, and the families are visited and carefully examined After being placed, it sometimes happens that a patient has to be transferred several times before a suitable family can be found During the last few years so many patients suitable for boarding-out have been removed from the hospitals that but a small number has been left, these, from time to time have all been placed in families In future the number will increase but slightly, only such cases occurring as naturally develop in the institutions "

In their report for 1894, the Board again expresses its opinion —

> 'It will be seen that the number of insane boarded in families has somewhat decreased during the year, although persistent efforts have been made to place out all who appear suitable for such treatment "

Without special thought or design there has been developed a most admirable system of dispersion of the harmless chronic insane I refer to the parole system, under which properly selected cases are sent home to the friends and relatives for immediate care, but remain under the jurisdiction of the hospital authorities This necessarily has a narrow field, but it is fully as wide in its applicability as the boarding-out system More attention is given this feature in some institutions than in others, but experience shows that if the authorities are earnest and persistent in the matter a reasonable proportion of the insane may be very happily cared for in this manner It is probable that the extension of the system, if thought desirable, might be stimulated by paying the friends having the patient in charge, a sum equal to the cost of his subsistence were he in hospital

The extent to which the parole system is utilized in a few State hospitals is shown in the following table —

State	Hospital	Date	Patients in Hosp	At Home on Parole	Per Cent
South Carolina	Columbia	Oct 31, 1893	796	37	4 64
Ohio	Columbus	Nov 15, 1893	1,197	106	8 85
Minnesota	Rochester	July 31, 1888	751	26	3 46
"	St Peter	July 31, 1888	954	25	2 62
Nebraska	Lincoln	Nov 30, 1890	326	13	4 00
Kansas	Osawatomie	June 30, 1890	519	34	6 55
Illinois	Kankakee	Nov 19, 1894	2 090	78	3 73
"	Jacksonville	Nov 16 1894	1,222	10	81
'	Elgin	Nov 18, 1894	1,115	30	2 69
"	Anna	Nov 19, 1894	853	32	3 75
Totals and averages, 10 hospitals			9 823	391	4 00

It is thus seen that about 4 per cent of patients carried upon the hospital registers are at home on parole

Desiring to obtain definite information of the workings of this system in this State, I recently wrote the superintendent of each of the large public hospitals for the insane inquiring as follows —

1 How many patients have you on your register?
2 How many are at home on parole?
3 Is any supervision exercised over patients out on parole?
4 Is any special effort made to get harmless chronic cases out on parole?
5 Do you approve the system?

To these questions the various superintendents courteously replied as follows —

Dr Arthur Loewy of the Northern, reports 1,115 patients on the register with 30 at home on parole Paroled patients are supervised by correspondence with their friends He always recommends the removal of harmless chronic cases whenever they can be cared for at home He approves the parole system

Dr W C Lence of the Southern, states that at his institution no supervision of paroled patients is exercised, except to instruct the friends to return them if they become worse Special efforts are made to get patients out on parole, and he approves the system

Dr J J McKenzie of the Central, says "We exercise no supervision over patients on parole They simply have the privilege of returning within the quarter without further legal proceedings We are compelled to make considerable effort to get chronic cases sent home in order to make room for acute ones as our institution is now, and has been for several years full to overflowing I think the system of granting parole is a good one

Dr Clarke Gapen, of the Eastern says "There is no special supervision exercised over patients who are out on parole except when we send a special attendant to accompany them which we do at times There has been no special effort made to get harmless chronic cases out on parole I think however that much could be done, not only to relieve the institutions but for the benefit of the patients themselves by such efforts There are many patients in this Institution who, I think could get on outside If the friends or county authorities could be induced to take a proper interest in them In answer to your fifth question I would say that I do approve of the parole system, as it is difficult for us to say positively when discharging a patient whether such patient is in condition to bear the strain of ordinary life or not and this can generally only be ascertained by trial The quasi criminal method of commitment in vogue in Illinois, makes it a very unpleasant thing for a half recovered patient to be re committed to an institution"

Dr McGrew of the Cook County Insane Asylum says — 'We have 1 067 insane patients on the register Very few are at home on parole No special supervision by the asylum authorities is exercised over patients after they leave the institution Friends are required to assume all responsibility after patients are removed No special effort is made to get harmless chronic cases at home on parole, neither is any great objection made to friends removing them if they desire, because of the over crowded condition of the wards We believe that the insane including the harmless chronic cases can be better cared for—with more advantage to themselves by the asylum system rather than at home"

The advantages of the parole system, as practiced, over the boarding-out system lie in the fact that the harmless chronic insane are in the hands of their relatives and friends, who are apt to take in them a more kindly interest than would strangers who were actuated solely by mercenary motives The subject is one of interest and practical importance and well worthy of extended inquiry and careful consideration

(*To be continued*)

Blank Applications for membership in the ASSOCIATION at the JOURNAL office

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THE TREATMENT OF EXTENSIVE BURNS

Read before the Chicago Pathological Society, Sept 10, 1894

BY EMANUEL FRIEND, M D
CHICAGO

Of all accidents which befall the human race none, in my opinion, call for more speedy and at the same time scientific treatment to alleviate pain, shock and subsequent infection than an extensive burn of the second or third degree, may it be caused by the mere flame, molten metals, boiling fats, hot water, steam and the like It is not the object of this paper to go into the minutiæ of etiology, symptomatology or pathologic anatomic changes characterizing the different forms and degrees of burns, but merely to hint at the anatomic changes taking place in the three gradations under which all burns are classified, and suggest a method of application of one of the oldest and best of therapeutic measures, namely water

In burns of the first degree, dermatitis combustionis erythematosa, we get a mild hyperemia of the papillary vessels of the corium with consecutive paresis and passive congestion, which causes a slight swelling and redness If an exudation takes place, and such is generally the case to a greater or less extent, a yellowish discoloration takes place, whether this is caused by the instantaneous application of a flame or by the heat of the sun, as in erythema solore, the changes are practically the same

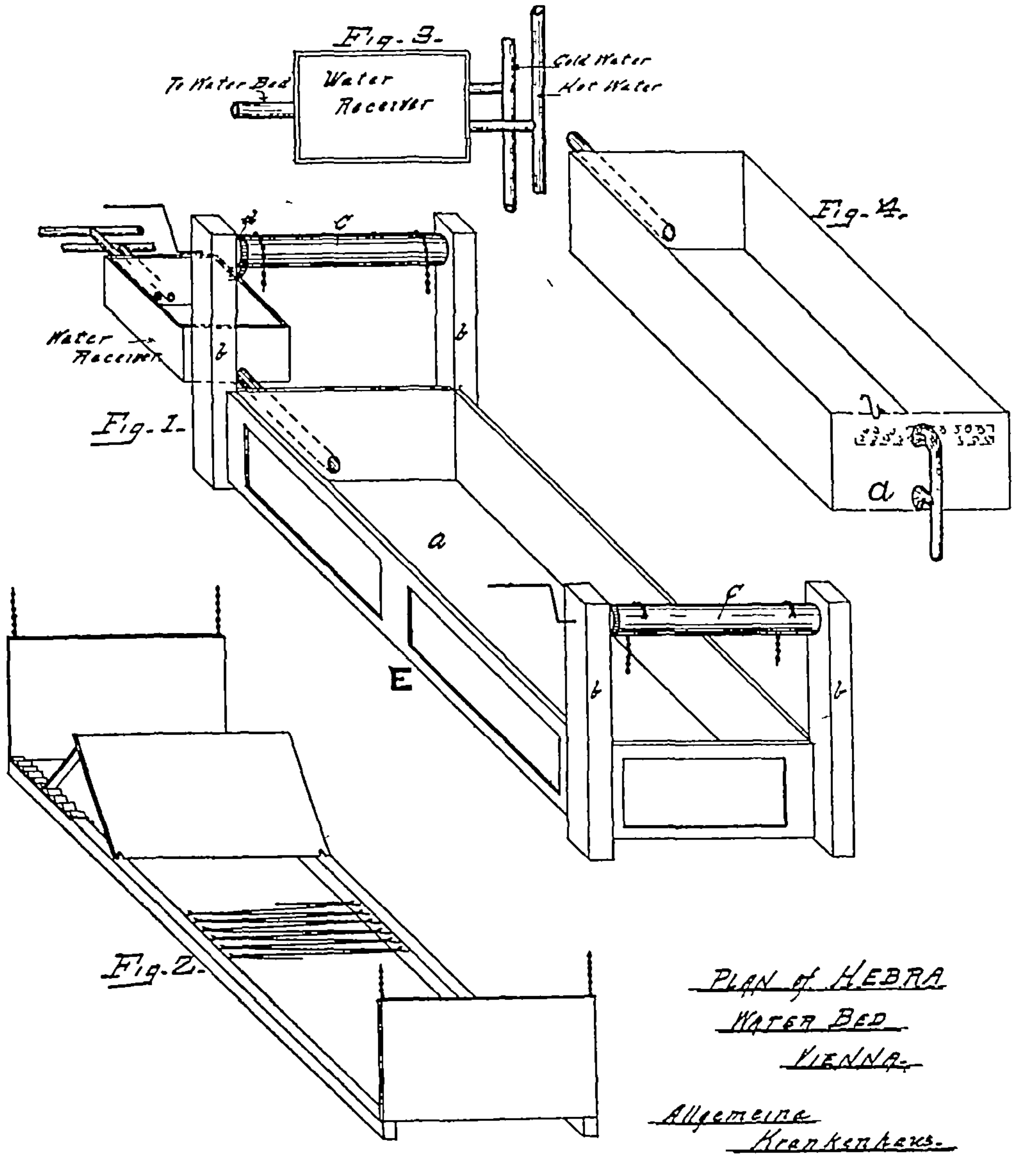
Burns of the second degree, dermatitis combustionis bullosa, are characterized by the appearance of bullæ, and vesicles of various sizes from a pin head to the size of the palm of one's hand, and even larger, which are due to a serous exudation from the papillary and upper vessels of the corium separating in part or the entire thickness of the epidermis from the corium beneath Generally, one sees innumerable blebs and bullæ, which have ruptured from, no doubt, sudden over distension from the rapid accumulation of serum and corpuscular elements, and also in consequence of the trauma, from the patient's hands, in his endeavor to extinguish the flame, we have great shreds of epidermis hanging from the corium

Microscopically, the appearance is the same, whether the bullæ or vesicles be caused by steam, fire or a vesicant Through the kindness of my friend, Docent Riehl, of Vienna, in presenting me with a piece of tissue containing a vesicle, caused by a mustard plaster just previous to the death of the patient, I am enabled to give the following brief analysis of the same

The tissue after fixation and hardening was stained with lithium carmine and picric acid, Zeiss ocular No 3, obj a On either side of the field one sees the remains of the epidermis which has been lifted from the corium beneath, in this specimen having been ruptured in the center, possibly in process of preparation, still adherent to the under and outer surface one sees epidermoidal elements, indicating that just at this point separation had taken place in the stratum lucidum, while beneath and still adherent to the corium one sees intact rete malphigii with several layers of prickle cells The center of the epidermoidal covering of this bullæ, or rather vesicle is lost, but the corium with its obliterated papillæ indicates that a complete separation of the rete malphigii and overlaying layers of epidermis had taken place here The contiguous papillæ are widened, the vessels dilated, while the connective tissue fibers are swollen and literally teased asunder by the exudate of serum, with its corpuscular elements, the latter having taken the lithium carmine stain quite markedly

Burns of the third degree, dermatitis combustionis escharotica In this degree the elements of the corium have suffered primarily from the continuous application of the heat, causing a mortification According to the agent producing the same, the parts become charred, bronzed, or dried and leathery Frequently one sees in the bronzed denuded surface, twig-like figures representing the coagulated and carbonized contents of the superficial vessels The eminent medico-legal authority, E Hofman, of Vienna, has shown that this injection of the vessels does not become apparent when the body of a murdered person is subsequently burnt, and also that the deeper tissues are afforded a considerable protection by the superficial layers of the epidermis and corium Thus has been shown in the cremation of bodies to what a great heat, continuously applied, the tissues must be subjected before an effect is perceptible on the deeper tissues

In Vienna, all cases of severe burning are taken to the dermatologic wards of the Wiener Allegemeine Krankenhaus, and cared for in a room set apart from the general wards, provided with seven Hebra water beds, and a nurse in constant attendance Through the kindness of Professor Kaposi and his first assistant, Dr Lukasiewicz, now Professor of Dermatology in the University of Zurich, Switzerland, I was enabled to study these cases, by having access to this water bed ward at any and all times Of all appliances and devices invented by man to relieve human suffering, I know of none which is entitled to greater credit than the Hebra water bed in the treatment of burns It is practically an oblong tank seventy-eight inches long, twenty-eight and one-half inches wide, twenty-one inches deep, lined with zinc, shown in the accompanying plan designated (Fig 1 *a*) Supporting this tank are two head posts three by two inches and forty-nine inches in height, and two at the foot measuring the same (Fig 1 *b*) Between both the two head posts and the two foot posts, is a windlass, (Fig 1 *c*), both of which can be turned by means of a crank which is adjustable At each end of the cylinder of the windlass is a chain, used to support an oblong steel framework or mattress (Fig 2) which fits snugly to the inside of the tank, when lowered by means of the windlass Along the sides of this mattress are placed hooks opposite one another, across which are strung wires (the same as the springs of our bed mattresses), to support a blanket, which is thrown over same, and the patient At the head, or rather within about eighteen inches of the head of this mattress is attached an upright, serving as a pillow sup-



port (Fig 2 *a*) which can be raised or lowered to suit the patient's convenience, it being supported by a cog and rachet arrangement, which is also found attached to the head windlass of the bed proper (Fig 1 *d*)

At the head of the tank (Fig 1 *a*), but separate and distinct from same is a water receiver (Fig 3) connected to the tank by a single pipe, merging into this receiver is both a cold and hot water pipe, coming either from a range or boiler, according to the source of the hot water The temperature of the water is hence regulated here instead of at the main tank Naturally, the large tank (Fig 1 *a*) is supplied with an escape pipe and a safety escape to prevent an overflow (Fig 1 *a*, *b*)

Fig 1 E represents the side woodwork of the bed

Upon the patient's arrival, orders are given the nurse to prepare the water bed, whose arrangement as you have seen is so simple that an inexperienced hand can prepare it in five minutes The temperature of the water should be about 25 or 26 degrees R and increased after the immersion to 32 or 34 degrees R

The patient is carefully lifted onto to the blanket covering the mattress, which is swung above the water's surface, which should reach to almost one-third of the top edge of the tank Almost at the instant the patient is immersed his heartrending shrieks and moans will subside, and if asked after five minutes regarding his condition, will state that he now feels comfortable If necessary, stimulants can be given and if the patient be laboring under intense shock, the water can be made somewhat warmer than that which would give the most comfortable feeling to the patient, being gauged by the hand and thermometer To the face is generally applied a mask of linen, saturated in carron oil Within an hour or two, after the more acute symptoms have subsided, the patient is raised out of the water catheterized, and the loose shreds of epidermis trimmed off and existing bullæ are tapped, care being taken not to remove the epidermial covering Then the case is treated symptomatically

As I have before stated, the object of these few lines is not so much the recommendation of the agent (as water has been used from time immemorial for the treatment of burns by both the laity and physicians) as it is the method of application, and consequently I would suggest the adoption of the water bed in all hospitals, possibly some ingenious member of the profession could suggest a plan by which the idea could be carried out in private practice, namely an apparatus adjustable to any bath tub

I am certain that, had we been possessed of such an apparatus during my term of service at the Michael Reese Hospital, it would have been decidedly to the patients' advantage as well as our own

The advantages claimed for the water bed are

1 Relieving the patient almost instantly of the excruciating pain consequent on a severe burn, and following the application and removal of dressings afterward

2 Producing more rapid cicatrization

3 Relieving shock

4 Preventing infection from erysipelas, pus micro organisms, etc

5 Prevention of amyloid degenerations due to the confinement of secretions by dressings

6 Saving of expense of material and time in frequent dressing

Patients may be allowed to follow this aquatic life for months and months, Kaposi reporting one patient having spent 385 consecutive days and nights in the water bed They eat, drink, sleep and frequently gain considerably in weight in the bed Not alone can burns be treated in this manner, but all forms of disease in which there is an extensive loss of epidermis as in pemphigus foliaceus, gangrene, or in chronic suppurating wounds

FACIAL BLEMISHES, A PLEA FOR THE STUDY OF THE SCIENCE AND ART OF COSMETICS

BY EDWARD H SCHAEFER, M D, PH L

KANSAS CITY, MO

There are many affections and defects of the body that demand the attention of the physician, who, in applying his knowledge of how to relieve and accomplish a cure, thinks he has done all that he is able to do

There is still one branch left, belonging to the external part of the human frame, to which very little attention has been devoted and even arbitrarily excluded from the province of medicine, and that is the science of cosmetics Physicians have always searched for hidden troubles of the human economy, diseases that are internal, not discernible by the eye, thereby entirely ignoring the outward conditions of man

That branch of medicine, intimately connected with dermatology, the science and art of cosmetics, has been until recently a kind of *terra incognita*, being exclusively in the hands of empyrics or non-professional persons For ages, men, and women especially, have striven to enhance their personal attractiveness, augmenting beauty and symmetry to their forms What remedial means and agents could be utilized in order to beautify face and body were the source of greatest speculation Every one, man and woman, wishes to appear attractive, which naturally is as it should be, and all means that are employed in that direction to accomplish the desired end, are truly commendable How often will a woman refuse to take medicine for some slight trouble, but can be persuaded with ease to do so, if she is reminded that some cosmetic blemishes might be the result The impressions made upon us by persons depend largely upon their external appearance Anything pleasing in its nature will be estimated in a favorable measure of opinion

Our ideas relate more or less to esthetics, be it in the form of objects or persons Women, knowing this perquisite to attractiveness have, since the remotest ages used all such remedies at their command that would heighten their bodily charms We all are aware how concerned women often are about any eruption on the face, as for instance, acne, lenticular spots, chloasma and other facial blemishes too numerous to mention Should this not in itself be a mild reminder of the necessity that the physician ought to concern himself more about those diseases of the skin that occur mostly upon the face and which often leave marks or imprints? How well could he apply his knowledge of the anatomy of the skin in making operations upon the face for tumors and other growths, so as to avoid leaving cicatrices Young men and women may be seen walking along the streets, who have their faces literally disfigured by acne, which often leaves its variola-like scars If any one takes the trouble of observing he can see numerous people who have nævi, warts and pigmentations, such as freckles, chloasmata and port-wine marks on their faces and necks How often do we not notice people whose faces are disfigured by scars, due to wounds that have suppurated a long time ago and have healed by granulation? Does it not appear to every thoughtful physician that there is still a wide field open to him in facial dermatology, if he only would try to do something in the line of removing or concealing facial blemishes by cosmetics? Wrinkles, the companion of approaching age, ought to be amenable to treatment, more so if they occur in the young

Criminals often resort to the skill of surgeons in having certain marks removed from their faces in such a manner that not a vestige of former stigmata remains

Among the plastic operations for the relief of hare-lip, cleft-palate, the operation of rhinoplasty, we realize the aim of surgery to establish the art of cosmetics All those remedial procedures, that are employed in the form of hot or cold baths, in order to incite perspiration, as well as massage and gymnastics, are used for the sole purpose of adding beauty to the skin and complexion

We have so many agents at our disposal that could be employed in removing all disfiguring marks of the face and other exposed portions of the body, as for instance, electrolysis, excision with the knife, skin grafting, the application of acids and alkalies and many other methods that the discretion and inventiveness of the physician may contrive

There is one most prevalent cutaneous disease which appears so often upon the faces of young people of both sexes I refer to acne with accompanying comedones This skin disease is curable and ought to be successfully treated in a few weeks if the attention be given to it as it deserves

Another sub specialty, advertised by non-professionals, namely "capillurgy," the art of destroying superfluous hair, should be practiced only by physicians

In the field of facial dermatology very much can be improved upon, in view of the fact, that by applying ourselves to that branch assiduously and studying the true pathologic conditions found present in cutaneous diseases, we are enabled to treat them more intelligently and effect a cure in many cases

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BLOOD-SERUM THERAPY IN DIPHTHERIA

Read before the Chicago Medical Society Dec 8, 1894

BY G E KRIEGER, M D
SURGEON TO THE CHICAGO HOSPITAL

The blood-serum therapy of Behring, Roux and others is based upon the fundamental fact, that the blood of an animal which has been rendered immune against a certain disease has the power, when injected into another individual of the same or other species, to immunize the latter also against that disease Suppose, for instance, we have a guinea pig immunized against tetanus or diphtheria bacilli and injected some of its blood into a rabbit, the latter would be protected for a certain length of time against infection of the germs or their poisonous products Such products are especially dangerous and deleterious to the organism in diphtheria If one intends to immunize an animal against the effect of diphtheria bacilli it will be necessary to increase its resistance against the toxic products of the germs, the toxins

An increased resistance and finally an immunity is obtained by applying systematically such doses of the poison to the animal as are sufficient to make the latter ill without causing its death As the tolerance of the animal increases, so does the immunizing power of the blood serum increase, which has been proven by Ehrlich in reference to the vegetable poisons, and by Behring with bacterial toxins The way of proceeding for the purpose of immunizing animals against diphtheria as advised by Behring, Ehrlich and Wasserman is by hypodermic injections of at first very small, and later, gradually increasing doses of diphtheria cultures and diphtheria toxins

The latter, according to Roux and Yersin, is prepared by inoculation of beef-tea in large flasks with diphtheria bacilli After the flasks have remained in an incubator for three to four weeks 0 5 per cent carbolic acid or 0 33 per cent trikresol is added, by which the germs are killed and precipitated to the bottom of the flasks The liquid then contains the toxin in solution From this solution the toxin can be prepared as a dry substance or it can be used while dissolved in the fluid The effect of injections of the toxin, is fever, local swelling and the production of antitoxin The latter is found in the blood of the animal after each injection and increases in quantity with the number of injections This treatment is continued until the animal possesses a sufficient quantity of antitoxin In order to estimate its efficacy, it is necessary to tap the animal, from time to time, for a small amount of blood with which experiments are made on others Behring and Kitasato were the first who observed that such antitoxin is able to neutralize the effect of toxin, when mixed in a tube

The mode of valuation of the diphtheria antitoxin, as advised by Ehrlich is this, of a toxin, the efficacy of which upon a guinea pig is known, a certain quantity ten times the minimum fatal dose, which may be 1 gramme is mixed with a number of different quantities of the blood to be examined, for instance 0 5, 0 25, 0 15, 0 10 gr, and with these four mixtures four guinea pigs are inoculated The result will be that the one which received the largest dose of the blood together with the toxin shows no reaction, the one that received the second largest dose will suffer from an acute local inflammation, followed by necrosis, but otherwise be not much affected The third will probably become quite sick and the one which got the smallest quantity of blood will die in forty-eight hours, from the same dose of toxin as the other received Hereby we can find out which amount of blood of the first animal is sufficient to neutralize a certain quantity of toxin, and so the value of serum can be established This is simplified if one has a material of a standard strength with which to compare others Behring and Ehrlich therefore, prepared a serum of which 0 1 gr is sufficient to neutralize ten times the fatal dose of toxin (for guinea pigs) and this they called "normal therapeutic serum" Of such normal serum one cubic centimeter was called the equivalent for one immunizing unit According hereto a serum, of which 0 01 gr is sufficient to neutralize ten times the fatal dose, would possess ten immunizing units or would be a ten-fold normal serum, and so on Ehrlich's experiments with normal serum in children, affected with diphtheria, showed that at least five hundred immunizing units are necessary to effect a cure, that is 50 gr if the material is a ten-fold normal serum, or 5 gr if it is a one hundred fold normal serum

Has the value of the serum once been established by a series of experiments as stated above, the animal is tapped for a larger quantity of blood which, being received in sterilized vessels, is placed on ice until coagulation has been completed and the serum been separated as a clean yellowish fluid This with 0 5 per cent carbolic acid now presents the material to be used for therapeutic purposes The most suitable animals for which the serum may be prepared are horses and goats on account of their susceptibility, as well as because of the large quantity they are able to furnish

Before speaking about the administration of the so obtained serum upon man, an item worth consideration may be mentioned It is a matter of experience that in different individuals even of the same family, diphtheria can produce symptoms materially different from each other One child may at first present the common picture of angina, with white plaques on the tonsils, but will recover after a few days of discomfort Another child may have laryngeal membranes which necessitate tracheotomy or intubation A third one may show from the beginning on, a serious affection of the tonsils throat and nose, with obstructions by thick membranes and suppuration, from the effect of which it can not be saved even by early tracheotomy

These different symptoms have all originated from the same cause, the infection with diphtheria germs, bnt for reasons not fully explained apparently, however, depending upon individual disposition, the infection is followed by so different local and general effects To establish the diagnosis under such different circumstances it would be necessary to make microscopic examinations The question now is, In what cases will the administration of serum save the child? Starting from the fact, that the antitoxin must be given in certain proportions to the toxins present and that it works effectually only if the organism has not too long been preoccupied by the toxin it is evident that a curative effect can only be expected in an early stage or in a milder form of the disease If the diphtheritic process already affects the bronchii and lungs, so that even tracheotomy is of no avail, the serum-therapy will do no better Neither can recovery be secured if complications possibly due to infection with other germs have set in

Equally doubtful is the prognosis if the toxins have circulated for a longer period, say three to four days because their paralyzing effect upon the nerves and ganglia of the heart can no more be eliminated As, however, the application of the serum is an entirely harmless procedure it seems to be advisable to use it even in advanced cases, provided they are not perfectly hopeless This has been made a principle in the antitoxin treatment in several hospitals of Berlin, with the effect that according to the latest report, the mortality of all cases has been reduced more than 20 per cent Of 121 cases treated with serum, reported by Director Koerte, 81 or 67 per cent recovered, while the average during the past four years was but 55 per cent recovery This statistic does not show as good a result as it would if the gravity of the present epidemic is taken into consideration Of 106 cases not treated with serum on account of impossibility to obtain it, only 46 per cent recovered which, compared with the 67 per cent would give a reduction of 21 per cent due to antitoxin Much better even than this are the figures if the cases are classified according to their gravity

Of forty-three very severe cases the result was 41 8 per cent recovery, 58 2 deaths Of forty seven medium grave cases the result was 70 2 per cent recovery, 29 8 deaths Of thirty-one cases with but slight infection 97 per cent recovery 3 per cent deaths Of forty-two cases in which tracheotomy had to be performed 47 6 per cent recovered, 52 4 per cent died against but 25 5 per cent recovery in former years Equally good results have been reported from other experimenters in Berlin and Dr Roux in Paris In regard to the effect of the injections it may be emphasized that they are absolutely innocuous After 5,000 injections but 3 abscesses have been observed The temperature does not increase nor are other general disturbances noticed Locally, a tenderness or a harmless skin eruption is sometimes observed which, however, disappears after a day or two Concerning the effect upon the tonsils and throat, the white plaques at first seem to spread after the injections, on the second day, however, the, mucous membranes discharge the infective material and the swelling of the glands is also reduced Besides this local effect, a change in the general feeling takes place soon after the injection Pulse and temperature return to normal condition in early cases within the first forty eight hours, dizziness and general weakness disappear, and the children soon become convalescents

In case of a renewed increase of temperature, one would have to conclude that complications as a suppurative process or pneumonia are in progress The effect of serum injections will not be pronounced, as mentioned, if either complications, for instance scarlet fever, are already present while the serum is applied, or the case is so far advanced that the toxins can not be neutralized, In such cases we have always to look for paralysis of the muscles usually affected, in spite of the antitoxin The most preferable place for the injections is on the lateral part of the chest, below the axilla, where on account of the soft subcutaneous tissue even large quantities are absorbed The application is made with the usual aseptic precautions

The antitoxin prepared as advised by Behring in the chemic works in Hochst-am-Main is put in different flasks, hermetically sealed, which bear on the label a mark as to the efficacy of their contents

No 1 contains a serum with 600 immunizing units, to be applied only in fresh cases on the first or second day

No 2 possesses 1,000 immunizing units to be used in more serious cases on the first or second day or in less serious cases of longer standing

No 3 possesses 1,500 to 1,600 units, and is meant for adults or very severe cases of children I have here the samples of antitoxin which are equal to No 1 and No 2 of the German preparation As a rule, but one injection is given If this, however, is found ineffective, another one should be applied the next day It is usually unnecessary to give an additional treatment, either locally or internally, the only thing advisable may be to cleanse the mouth with weak antiseptic solutions

In case the serum is not intended as a curative, but as a prophylactic, the strength and quantity required is considerable smaller In the average, 100 to 200 immunizing units are sufficient to protect a healthy child against the infection How long such protection or immunity lasts has not been fully determined, and Dr Kossel advises a re-vaccination, after three weeks, if the child is still exposed to conditions which allow the infection Such small doses, however, would be sufficient only in case the child was not already in the period of intubation, which would place it under the class of an early stage It sometimes may happen that children were infected, but for lack of visible symptoms do not get an adequate dose, in which case not the serum would have to be blamed but the mistake in sizing up the case

In conclusion, I wish to say that these few practical remarks do not pretend to cover the subject of blood-serum therapy, and those who are more interested in this subject I take occasion to refer to a monograph on "Blood-serum Therapy and Antitoxins," issued January 1

Everything considered, I believe we are on the eve of a revolution in treating infectious diseases, and perhaps other constitutional diseases, the nature of which was heretofore not understood, for lack of microscopic and bacterial evidence

1003 Columbus Memorial Building

HYGIENE OF THE ANUS AND CONTIGUOUS PARTS

BY J RAWSON PENNINGTON, M D

CHICAGO

My object in writing this paper is to call attention to some of the most important points of practical every-day hygiene, as applied to the anal region, which, if we observed more carefully, would materially reduce the number of cases of ano-rectal diseases

Failing to heed nature's call to evacuate the bowels, or, when heeded to attempt, as soon as seated, to force or hurry defecation by bringing to bear all the power of the diaphragm and abdominal muscles and force the fecal mass, which frequently contains seeds and other substances, with sharp edges, against and through the sphincter without giving it sufficient time to become thoroughly dilated, is a very common and frequent source of these troubles

Dr Eastman says "This inordinate *vis a tergo* as often retards as expedites the matter, for human muscle, like human character, resists force, and in the case of the muscle under consideration, if overwhelmed by violence many times yields, at last, at the expense of its elasticity, the destruction of the hemorrhoidal veins and the laceration of the mucous membrane"

Now, recalling the fact that, in addition to this violence, the mucous membrane is everted during the act of defecation and that printed paper, hard and rough substances are frequently used as detergents, is it any wonder, with such favorable conditions offered for infection, contraction and development, that these diseases are so prevalent?

The use of printed paper, which is so universally and promiscuously employed, should be condemned, and the pernicious effects which are liable to follow its continuous employment, thoroughly impressed upon the laity

Many of these papers and inks are
Quite a number of the inks contain nigrosi
Paris blue (ferrocyanic acid), and other
and some of them, being charged so highly
elements, are labeled "poison"

Who is not familiar with the fact, that fa
with anilin dyes frequently produce viole
tion when brought in contact with the
cuticle, and in some instances are sufficientl
to induce constitutional effects? This bei
there not more danger in bringing these dye
contact with the delicate and ofttimes lace
cous membrane of the rectum and anus?

The use of the above articles for detergent
the former by mechanical injury and the
depositing irritants upon the mucous men
cutaneous surface near the verge of the anu
an inflammatory condition terminating in
fissures, ulcerations, or, as Mathews says, "
duce such a condition of the mucous men
will ultimately end in hemorrhoids, etc"

These pathologic conditions, plus the t
constipation they produce, place extra duty
external sphincter, which causes it to beco
oped out of proportion to the muscles in
expulsion, wherein we have a very commo
chronic constipation, and this frequentl
ulceration of the rectum, or sigmoid flexure
and, because of the peculiar nerve supply
parts, this condition may exist for month
years, without either physician or patient
it, and the individual is constantly treating
tal and nervous troubles, dyspepsia, uterin
heart and many other affections, which a
reflex and can be relieved only by detecting
ing the rectal or sigmoid affection

To illustrate the effect of minor anal ir
will briefly append one case

Mrs D, age 28, was referred to me in May, la
friend, Dr Pynchon, to be treated for piles I e
her bowels moved every fourth or fifth day onl
after having taken from three to five compoun
pills, which it was necessary to follow with a la
salts or an enema Examination revealed a
sphincter, hemorrhoidal tendency and a few smal
around the anus I prescribed an aperient, a loc
tion and advised frequent bathing of the anus
days her bowels became regular, moving daily
continued so without further medication Suffic
that her general health materially improved

The writer wishes not to be understood
that all vague or reflex troubles are due to
orders, at the same time, however, he in
emphasis must be placed on the undeniable
in the rectum exists the pathologic condition
diseases than credit is given

Paper to be used as a detergent should
firm, smooth, soft and pliable quality and
ink and other poisonous ingredients The
ing better in this line than pure tissue Co
and demand, however, have caused the man
to place upon the market many cheap, hard
inferior papers which are not only more
but are not fit for use and should not be

Another point, which I consider of very
portance, and one that is almost totally
regular anal ablutions

Mr Allingham in referring to this sub
"Many people seem to forget that the anu
quite as much washing as any other part of

Mathews, in referring to patients with a sition to hemorrhoids, says "These patients should be instructed that any irritant to the parts, such as printed paper, as a detergent, should be avoided, and above all that a cold ablution of the parts should be made after every act of defecation "

Kelsey in such cases, advises the free use of cold water to the parts at least once a day, and further says "This is the best tonic, astringent and anodyne of which I have any knowledge, and its habitual use would prevent a very considerable portion of all hemorrhoidal difficulties "

The same general advice is also given by Cooper and Edwards Hence the consensus of opinion of eminent authorities is that the anus should receive frequent and regular ablutions, and the Bidet, Fig 1, to which I shall presently refer is superior to all other devices for this purpose Yet, notwithstanding the preponderance of evidence, very few of our water-closets are provided with any appliance for this important part of the toilet'

The Bidet above referred to, made by J L Mott & Co, is readily attached to any water closet, and is so constructed that the anus and contiguous parts may be thoroughly drenched with hot, cold or tepid water after each evacuation of the bowels, and by attaching a vaginal pipe, since the force of the jet and temperature of the water are easily controlled, it becomes a useful apparatus for vaginal injections

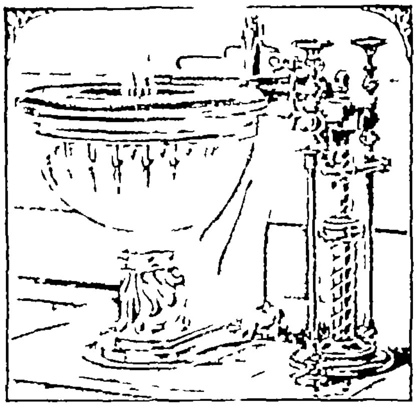

PLATE 1038 G

Copyright, [illegible] Iron Works

A simpler arrangement however, and one that would answer most all purposes quite as well, is a miniature wash bowl fastened to the wall or otherwise, at the rear and on either side of the closet basin, near the seat This basin is supplied with hot and cold water and has a waste connected with the closet bowl, that can be raised or lowered at will From the tap, lint, fabric or tissue paper may be dampened for use, after defecation, or the waste closed and the bowl filled with water which may be medicated before using, if desired No well appointed private water-closet is complete without some provision being made for this part of the toilet

I find, upon inquiry, that many ingenious ways are devised for cleansing and bathing this portion of the human anatomy Some soak a few pieces of toilet paper in the wash bowl of the bath room, others flush the closet basin, then dampen some paper, for cleansing the part, in the water with which it refills In both instances it is very inconvenient, and in the latter there is much danger of infection, and I should be inclined to look upon it as a rather unsavory procedure at best

Heeding nature's call to evacuate the bowels, using paper of the quality above advised and keeping the anus and contiguous parts clean, by daily ablution, guards against chafing, filth, eczema, pruritus, fistula, piles, constipation and a host of other troubles, which are a frequent cause of many chronic constitutional diseases It also prevents soiling of the linen, which to the sensitive and delicate minded person is a source of great annoyance

103 State Street

THE RIGHTS AND DUTIES OF MEDICAL WITNESSES

Read before the Mississippi Valley Medical Association, Nov 21, 1894

BY HON W S KERR

MANSFIELD, OHIO

The scope of this paper carries us to the gate of medical jurisprudence, and a little beyond, but I do not enter far its inviting domain I deal largely with the rights of physicians and surgeons when subpœnaed as expert witnesses, and with the duties incumbent upon them as members of a learned and honored profession when they are called upon to testify as medical experts

Medical witnesses have been extravagantly eulogized and unmeasurably condemned by courts and law writers They merit both the eulogium and the condemnation When they traffic in their evidence and appear as hired advocates the condemnation is just, when they appear as members of a great and enlightened profession, to aid in the administration of the law, and testify conscientiously, no tribute is undeserved

The weight of medical expert evidence depends upon two qualities 1, the skill, learning and experience of the witness, and 2, his honesty The latter quality can be and should be alike in all, the former, in the nature of things, must vary and differ in degrees almost infinite in number A physician whose practice has been confined to the small towns or the country could not be an Ericsson, nor one of three years' experience an Agnew But all are admitted to testify to those things which they have studied and practiced, and the cause of truth and justice demands that according to their lights they should testify the truth, the whole truth and nothing but the truth It should be recollected that not only the spirit but the form of the oath covers an opinion as well as facts testified to by expert witnesses I do not want to lecture or read a homily on duty to the medical profession, but the following extracts from court opinions and eminent law writers will not only justify the few observations I have made, but will also show how your high standard has been lowered here and there along the line, by testimony calling out these criticisms But that you may see how well the line has been held at other points, I quote alternately censure and praise, or, as earlier suggested, condemnation and eulogium

A Scotch judge of that rugged integrity characteristic of his people, once said to a jury, referring to the medical evidence submitted on the trial "The evidence is as unsatisfactory as any I have ever seen It leaves on the mind the distressing impression that the science of medicine is simply the science of guessing and experts Different doctors with equal confidence and equal dogmatism, express contrary opinions upon the same condition of things I advise the jury to exercise their common sense, throw overboard the medical opinion and go by the facts "

A Texas court once said "The opinions of medical men are received with great respect and consideration, and properly so "

Judge Redfield in his treatise on the law of wills says "Medical experts are beginning to be regarded much in the light of hired advocates, and their testimony nothing more than a studied argument in favor of the side for which they have been called So uniformly has this proved true, in our limited experience, that it would excite scarcely less surprise to find an expert called by one side, testifying in any particular in favor of the other side, than to find counsel on either side arguing against their clients, in favor of their antagonists "

The Supreme Court of Pennsylvania says "It is well settled that the knowledge and experience of medical experts is of great value "

An Ohio court said in reference to evidence in a murder case "It would be but a farce to try such a question upon the strength of medical opinions, and to regard the weight of evidence always on the side which produced the greatest number "

The Supreme Court of North Carolina says "The opinion of a well instructed and experienced medical man upon a matter within the scope of his profession, and based on personal observations and knowledge, is and ought to be carefully considered and weighed by the jury in rendering their verdict "

The Illinois Supreme Court says "These doctors were summoned by the contestants as 'experts' for the purpose of invalidating a will deliberately made by a man quite as competent as either of them to do such an act The testimony is worth but little, and should be received by courts and juries with great caution It must be apparent to every one, but few wills could stand the test of the fanciful theories of dogmatic witnesses In such cases the opinions of neighbors, of men of good common sense, would be worth more than all the experts in the country "

The Ohio Supreme Court says "Medical testimony is of too much importance to be disregarded "

Mr Justice Grier, of the United States Supreme Court, said in delivering an opinion "Experience has shown that opposite opinions of persons professing to be experts may be obtained to any amount "

The Georgia Supreme Court in speaking of medical evidence says "It is entitled to great weight and consideration "

Judge Campbell, of the Michigan Supreme Court said "The experience of courts with the testimony of experts has not been such as to impress them with the conviction that the scope of such proofs should be extended "

Thus has the shuttle of criticism, favorable and adverse, gone to and fro, weaving in the warp and woof of jurisprudence, the history of the medical witness In the court-room he has won laurels for his profession—in the court-room he has brought reproach upon its fair name and fame But it should be remembered that the medical expert is not the only expert whose testimony has been the subject of unfavorable judicial comment Other experts appear quite as frequently as do physicians and surgeons, and when their evidence has been afflicted with the same vice it has been similarly characterized

To avoid this just censure, opinions should be regarded as facts stated under the solemnity of an oath, and not as arguments to be urged in behalf of the side calling the witness Opinions can not be measured in reference to their soundness, as facts can be squared to accord with the truth, there must be more latitude to give room for the difference in mental processes and impressions, but they have boundaries, or else there is no exactness in medical science Exactly opposite opinions upon the same hypothesis proves one of two things—either that the witness lacks veracity or knowledge, or that the science is too elastic to be the measure of important rights

Courts have been called upon to unfavorably criticise medical witnesses in respects other than in reference to opinion evidence An investigation involving the condition and position of organs which can be examined physically and ocularly, ought not to differ materially in the result The evidence of such examination and result presents facts and not opinions A case illustrating this point, and in which I was engaged as counsel, came under my own observation A woman sued a municipality for damages She claimed to have prolapsus of the uterus from a fall upon a sidewalk During the trial eight physicians examined her—four at one time and four at another, but all within an hour or two Four testified that her condition, in respect to the matter complained of, was entirely normal

The other four, and their examination had been contemporaneous, testified as follows One said he found the position of the organ abnormal in that it leaned too far back, the second that it leaned too far to the right, the third that it leaned too far to the left, and the fourth, a Nestor in the profession, said he found it too straight up

Another case tried recently in an Ohio court illustrates how physicians may fall short in making the test which more than any other would measure the capacity, which is always the desideratum in such investigations An application was made for the appointment of a guardian for a man who, in the meridian of his powers, was one of the most celebrated physicians and surgeons in Ohio, upon the ground that he had become an imbecile, and was incapable of managing his business Three of the most celebrated and able mental alienists in the State testified to his soundness of mind and his capacity to do business Their investigations, although made with ample opportunity, were limited to conversations upon subjects relating to events long past or about items of property which he had possessed for years

An order of the court was made to examine the alleged imbecile and such examination was made Two very simple tests did more to solve the question of incapacity than all the expert evidence He was told to add a column of five figures The first three were added correctly but he could add no farther He was next given $1 77 in change, consisting of seven or eight pieces and although he was able to designate the pieces, after considerable effort, he was *unable* to tell the aggregate A man capacitated to do business should be able to add five figures and count a few pieces of money

The cases in which the physician is called upon to aid the law are legion If I were to undertake to enumerate them, the schedule itself would extend beyond the reasonable limits of a paper Judicial history shows that the physician as an expert witness, shines brightest or suffers the most serious discomfiture in cases of insanity and poisoning Both of these afford a broad field for the exhibition of brilliant professional learning and acumen, and in legal investigations usually attracting large public interest and attention They are fields worthy of any man's conquest even though he has to burnish his weapons by the light of a midnight lamp

It should be recollected, also, that it is only in doubtful cases where the medical witness becomes an auxiliary to the law He should not only be able to describe and classify the subject about which he testifies, according to the science of his profession, but he must bring his knowledge down to the comprehension of the twelve ordinary men who sit in the jury box Because however learned he is, if those whom he is to enlighten fail to comprehend him he has failed of the object and purpose of his being a witness In measuring the duty of the medical witness it should be borne in mind that the majority of medico legal questions are beyond the field, and lie far outside the every day path, of most physicians Nineteen twentieths of their practice, medical and surgical, never relates to a matter which is the subject of litigation It requires study, much study, to be a giant in any profession Those who wait until the case presents itself, before fitting to try it or treat it, gather only withered leaves and faded flowers for their victor wreaths That the daily practice of a doctor does not bring him into contact with the insane, is no reason why he should not possess, at least, the book learning of the subject He may not be called once a year to treat a case of poisoning, yet he should know the various poisons, their peculiar effects and symptoms and be able to make the distinctions which science enables those to make who have tarried long enough at her fountains It is to the advantage of a physician, if he never earned a dollar in this field, to be accomplished in legal medicine It is a part of his profession and one who succeeds in a profession is one who explores with the lamp of industry its every branch and recess, and who comes to the discharge of its every duty with a mind capable of not alone comprehending, but of applying correctly its principles

Necessity brought into requisition the medical expert Frequently the courts would encounter questions of fact which all the knowledge of lawyers and judges and the common sense of juries could not solve satisfactorily If those questions related to the human mind or body, who better could assist in making light that which was dark and mysterious, than the learned physician? So he was added as a spoke in the wheel of justice, or a wheel in the machinery of the law

Mental alienation is a broad and inviting study Men have spent their lives and become famous in the field and yet have not conquered half its difficulties nor solved half its mysteries But this should not discourage the physician from devoting a little time, stolen from the daily grind, to its study Like the bread cast upon the waters it will come back to bless him Any doctor may be subpœnaed at any time to testify as a medical expert Doctors as well as lawyers, and perhaps members of other professions, are judged by a standard fixed by a misconception and this misconception is deeply rooted in the common mind In general understanding, both law and medicine are supposed to be made up of certain fixed and unvarying rules, which when applied will solve every question and dispute and determine every diagnosis and the treatment It is further believed that every doctor and lawyer should be able at any moment to pick up one of these rules, as a carpenter would his measure, and settle the question or tell the disease at sight We know that these are mistaken ideas I am not competent to speak as to medicine, but as to law, it is not so much to know the law as to know where to find it But in general estimation a doctor, when put on the stand, is expected to shed broad light upon any subject connected with medicine and if he is not able to do so or at least appears not to be able, not only his professional dignity but his professional standing and usefulness suffer

Physicians are brought into court to testify as to the identity and ages of persons The Tichborne case, as to the identity of the claimant, is one of the most interesting judicial records of the world They are asked to give opinions as to probable survivorship where persons have died at near the same time and the course of inheritance depends upon the order of death They are required to testify as to the age of puberty and to determine the most delicate and important questions in cases involving capacity to commit rape and paternity proceedings In cases of criminal abortion, multitation, homicide, infanticide, defloration, wounds, impotency, sterility, pregnancy and in scores of other cases and upon scores of other questions, the physician is a valuable, an indispensable auxiliary in legal proceedings, civil and criminal

A learned legal authority says "The jury are to be enlightened in every possible way, and as they are not selected with a view to their qualifications to try the particular issues before them, but as men possessing the ordinary qualifications of mankind, when questions arise to be determined by them, involving an acquaintance with facts not coming within the ordinary range of human experience, skilled witnesses are permitted to enlighten them The true rule is that when the subject to be investigated so far partakes of the nature of a science or trade as to require a previous course of study or habit in order to attain a knowledge of it, opinions of experts are admissible "

In legal controversies, turning upon, or involving the condition of mind as to soundness or unsoundness, the most important as well as the most difficult questions are largely determined by medical evidence The physician is able, as no one else can, to physically and mentally measure the man A man may not be able to manage his business affairs and still be responsible for crime In criminal proceedings the supreme test is the ability to distinguish between right and wrong This would seem a very simple and easy rule, but in its application to actual cases it calls into requisition all the acuteness and learning of both professions and in spite of all their acuteness and learning many an insane person has been executed for crime and many an offender has escaped just punishment upon the mistaken finding that he was insane And it is no reflection upon law or medicine that this should be so The most difficult problem with which courts and lawyers and doctors have to contend is that of real or alleged mental aberration in criminal cases and especially in capital cases Many cases present the defense of insane impulse The person charged being concededly sane, immediately before and immediately after the commission of the act Such was the shooting of Key by Sickles Sickles was a Congressman and eminent in public life Key had done him a great wrong Upon sight of Key and under the impulse of his wrought up feelings the latter was shot dead in one of the public parks of the National Capital The defense was that his condition of mind at the moment rendered him incapable of controlling the natural impulse to destroy the destroyer of his home He was acquitted

The Mary Harris case tried in Washington during the war was a celebrated case and presented clearly the difficulty, which medical experts encounter and, as well, the duty which they must discharge when a life, especially that of a woman, is at stake The defendant shot a man to death in the Treasury Department and her defense was insane impulse She was defended by most able counsel, among them being Senator Voorhees, then a Member of Congress Eminent medical experts testified on both sides While she was imprisoned, Mrs Lincoln sent her a bouquet of rare flowers and within a year or two last past she was married to her senior counsel She was acquitted upon the ground that at the moment of the shooting she was incapable of controlling the impulse under which she destroyed a human life

A further illustration of this kind of evidence is in cases where, although the person charged with an offense is insane, it is claimed that either he still retained enough mental power to distinguish between right and wrong, or that the act was committed during a lucid interval The question of responsibility may turn upon a brief interval of time

Again, in civil cases, some of the most important, delicate and interesting questions, as to mental capacity, have arisen in contests of wills The mental capacity is frequently complicated with undue or illegal influence and thus compounded make contests in which fame may be achieved by medical experts

And still again, difficult questions as to mental capacity arise in proceedings to appoint guardians for persons alleged to be imbecile or insane I believe medical authorities define an imbecile to be one idiotic but not born such An old legal authority provided this test "A person who has understanding enough to measure a yard of cloth, number twenty correctly or tell the days of the week is not an idiot in the eyes of the law" But in these days of asylums for the feeble-minded, institutions in which idiots are taught to do these things and many more, this test of responsibility or capacity would hardly be received as conclusive And in all such cases judges, calling to their aid medical gentlemen as expert witnesses, must unravel the tangles

Cases in criminal poisoning usually have about them the interest of mystery In a great majority of these cases the evidence to convict or exculpate must come from the medical profession The most important witness is usually the attending physician, and very much depends on how carefully he has noted and how clearly he can describe the symptoms The chemist can analyze in search of the poison, but only the doctor can preserve the symptoms and appearance

Doctors are frequently called into court, not simply as witnesses to give an opinion but to testify to technical facts, the knowledge of which was acquired by them in the confidential capacity of attending as a family physician and in aid of or against persons thus employing them Under the common law the communications made by patients to their physicians were not privileged Most of the States by statute have provided that such communications shall not be given in evidence if the patient objects The privilege is that of the patient and not of the doctor But in order to exclude them they must be made about something necessary to be disclosed in order to prescribe the remedy or treatment

I have reserved for the last, a brief reference to the law regarding the right of medical experts to receive or demand extra compensation before testifying If they are subpœnaed to testify to facts which came under their personal observation, their rights are not different from those of any other witness They are bound to obey the summons of the court and if they neglect to do so, they would be subject to punishment as for contempt of court I think, as a general proposition and in the first instance, physicians are obliged to appear in court when subpœnaed and paid or offered the ordinary fee, and that their right to raise the question does not present itself until they are propounded questions calling for opinion or scientific evidence and then the question arises hereinafter discussed This may seem to fall short of what an expert ought to be able to demand before going to court, but the reason of the proposition lies in the difficulty of determining beforehand the kind of evidence to be elicited If it was conceded at the outset that opinion or expert evidence alone was to be sought, then I think the right to demand extra compensation would exist before answering the subpœna or at least before going upon the stand

Some of the States by statutory provision, have settled this question North Carolina as follows "Experts when compelled to attend and testify shall be allowed such compensation and mileage as the court may, in its discretion, order"

Iowa as follows "Witness called to testify only to an opinion founded on special study or experience in any branch of science or make scientific or professional examination, and state the result thereof, shall receive additional compensation, to be fixed by the court, with reference to the value of time employed and the degree of learning or skill required"

Rhode Island as follows "In addition to the fees above provided witnesses summoned and testifying as experts in behalf of the State before any justice of the Supreme Court, trial justice or coroner, may be allowed and paid such sum as such justice of the Supreme Court, trial justice, or coroner may deem just and reasonable, provided, that the allowance so made by any trial justice or coroner, shall be subject to the approval of a justice of the Supreme Court"

Indiana has settled the matter the other way and as follows "A witness who is an expert in any art, science, trade, profession or mystery may be compelled to appear and testify to an opinion as such expert, in relation to any matter, whenever such opinion is material evidence relevant to any issue on trial before court or jury, without payment or tender of compensation other than the per diem and mileage allowed by law to witnesses, under the same rules and regulations by which he can be made to appear and testify to his knowledge of facts relevant to the same issue "

In States where no express provision has been enacted the question is still an open one, unless some court of authority has fixed a rule Some of them have, as hereinafter stated No expert is required, whatever the rule is, to make examinations and prepare to testify in behalf to a party to a suit without such compensation as may be agreed upon He might be required to do so if appointed by a court as a commission or committee in cases where the court had authority to make such appointment He can not be compelled to attend the progress of a trial in order to enable him or qualify him to give opinions as to questions involved

The reasons are all in favor of extra compensation Authoritative writers on medical jurisprudence have set them forth as follows I quote from Ordronaux "It is evident that the skill and professional experience of a man are so far his individual capital and property that he can not be compelled to bestow it gratuitously upon any party Neither the public, any more than a private person, have a right to extort services from him, in the line of his profession, without adequate compensation On the witness stand, precisely as in his office, his opinion can be given or withheld at pleasure for a skilled witness can not be compelled to give an opinion, nor committed for contempt, if he refuse to do so "

I quote next from Beck's Medical Jurisprudence " "If the duties on which I have enlarged are important to the community, in promoting the proper administration of justice, ought not the individuals engaged in them to receive adequate compensation? I advert to this not only because it is just in principle, but because it would remove all imputation of volunteering in criminal cases, no one can refuse being a witness when legally summoned, every one, I presume, may decline to dissection of a dead body, or the chemic examination of a suspected fluid and yet there is not, I believe, an individual attending on any of our courts, who is not paid for his time and services, with the exception of such as are engaged in these investigations "

These authors are physicians and it may be reasonable to subtract a little from their enthusiasm, but notwithstanding, they state cogently reasons which ought to determine the rule A good deal of learning has been expended in discussing whether the rule should rest upon the theory than the time of an expert was more valuable than that of an ordinary witness, or that upon the theory that his opinions, skill and experience are his property of which he can not be deprived without adequate compensation The latter theory has prevailed universally where extra compensation has been authorized and it is the only tenable basis

In a Massachusetts Federal Court in a criminal case, the district attorney moved to attach a witness as for contempt, who had failed to appear when subpœnaed as an interpreter It is not an exact parallel but the reason is the same The court declined to issue the writ and in the refusal is reported as saying "A similar question has heretofore arisen and I have declined to issue process to assist in such cases When a person has knowledge of any fact pertinent to the issue to be tried, he may be compelled to attend as a witness But to compel a person to attend because he is accomplished in a particular science, art, or profession would subject the same individual to be called upon in every cause in which any question in his department of knowledge is to be solved Thus the most eminent physician might be compelled merely for the ordinary witness fee, to attend from the remotest part of the district, and give his opinion in every trial in which a medical question should arise This is so unreasonable that nothing but necessity would justify it "

One of the Federal Circuit Courts of this State (Arkansas) has decided the question in favor of the right to demand extra compensation before testifying to matters of expert knowledge The court said "The skill and professional experience of a man are so far his individual capital and property that he can not be compelled to bestow them gratuitously upon any party "

The Court of Appeals of Texas held the opposite rule upon the peculiar facts of the case A physician was placed upon the witness stand and testified without objection to the facts which had come under his personal observation, when it came to his opinion as to the cause of the man's death he declined to answer without other compensation than the ordinary witness fee The trial court sustained the physician, but the Court of Appeals held that inasmuch as he had already made the *post mortem* examination he should give his opinion

The Supreme Court of Indiana, before the passage of the statute denying the right to extra compensation, decided the question the other way, and in the opinion used the following language "When a physician testifies as an expert giving his opinion he is performing a strictly professional service So does the lawyer, when he performs any services in a case The position of a medical witness testifying as an expert, is much more like that of a lawyer than that of an ordinary witness testifying to facts The purpose of his service is not to prove facts in the case, but to aid the court of jury in arriving at a proper conclusion from facts otherwise proved "

The English rule is well settled in favor of extra compensation Justice Maule in one case saying "There is a distinction between the case of a man who sees a fact, and is called to prove it in court of law, and a man who is selected by a party to give his opinion on a matter on which he is peculiarly conversant from the nature of his employment in life The former is bound as a matter of public duty to speak to a fact which appears to have fallen within his own knowledge The latter is under no such obligation, there is no such necessity for his evidence and the party who selects him must pay him

Alabama has denied the right, other States may have done so, but the cases have not come under my observation Upon the reason of the thing one wonders why courts have divided upon the question An expert is one who by study and practice, skill and experience has acquired peculiar knowledge of a certain subject or matter He arrives at his knowledge by a process akin to that through which property is accumulated, and it is as valuable as property The latter receives the protection of constitutional provision, and is guarded as sacredly as life and liberty Yet knowledge, by these adverse decisions, is treated as commons upon which judicial stock may graze at pleasure

The evidence of an expert should be compensated for commensurate with its value In criminal cases the amount should be fixed by the court, in civil by agreement between the expert and the party calling him The medical expert should never have his opinions for sale Fidelity to his profession and its great principles should be his pole star Medicine is the greatest of the worldly professions It deals with life and health, the dearest possessions of this sphere For years, if not in substantial honors yet in general estimation, it has been honored above all Its members have ornamented the most exalted stations, and in its daily work, without herald or drum beat it modestly performs its great task in life I am highly honored by being admitted, for this brief time, within the precincts of your order

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D , LL D

NEW ORLEANS LA

(Continued from page 10)

CHAPTER III

Algid Form —"As a general rule, the vascular action was much below par in the algid form I have observed cases in which the radial pulse was imperceptible for days, more commonly, however, the pulse at the worst, though excessively feeble, was not altogether obstructed, and by a delicate and practiced finger it could be felt and counted Its rate was variable, more commonly below than above 100 per minute I have noted it at 80, very fine, thready, weak and readily extinguishable, and at almost all intermediate rates to 120, with much the same character The cardiac action was very feeble I have not observed any diminution in the relative proportions of the first and second sounds of the heart, they were often diminished in tone and force, but preserved their relative characters of duration and intensity I have not observed any want of accordance between the cardiac action and that of the arteries in the algid form, such as I shall have to speak of subsequently when treating of some of the other forms In general, in this form the radial pulse could be taken as a measure of the cardiac action When the pulse was feeble, the heart was likewise proportionately so There was no exception to this rule, as my experience of the cases goes (p 260)

"Sthenic Form —This class of cases generally exhibits from the outset a remarkable elevation of temperature It is common to find an increase of 3 degrees, 4 degrees or even 5 degrees Fah , and in some instances an increase of nearly 7 degrees has been observed We have noted the thermometer in the axilla at 102 degrees, 103 degrees, 104 degrees, and in some instances it nearly touched 105 degrees Fah This limit I have not actually seen reached in any case, though the mercury in some instances rose considerably above 104 degrees (The instrument employed, an English one of the kind commonly used for hospital purposes, did not admit of more minute or accurate reading than by whole degrees (p 266)

"Rate of the Pulse in the Sthenic Cases —The pulse, though often full and expanded, and occasionally hard and thrilling in this form, commonly ranges but little above 100 or 110 beats per minute I have noted it in some cases at 112, 114, and in very rare instances so high as 120 In general, when the pulse runs above 115, the case passes into a low and typhoid state, on the other hand, I have seen well-marked pyrexia with a pulse at 60 It has fallen to 100, 90, 80, and even 70, and in two instances to 60, without very well marked diminution of the other pyrexial symptoms, in these latter instances it has always retained its force and expansion Thus we not unfrequently have the combination of a pulse at 70, 80 or 90, or in general terms, under 100, while the thermometer in the axilla shows a persistent temperature above 100 degrees Fah

"The following combinations of pulse rate and temperature were observed in the course of my investigations into the Lisbon epidemic, they are selected to show the absence of harmony and the frequent contrasts presented by the two sets of phenomena

TABLE OF PULSE RATE AND TEMPERATURE
(Thermometer in axilla)

Case	Pulse	Temperature
1	113 per minute	102 0° Fah
2	100 " '	100 0 "
3	112 full	104 0 "
4	104 '	103 0 '
5	92 "	101 0 '
6	100 '	103.5 "
7	104 "	103 0 "
8	100 "	104 5 "
9	84 '	99 0 '
10	70 "	100 5 "

"From this table it will be seen that the highest pulse rate and the highest temperature did not correspond On the contrary, the highest pulse at 113 had only a moderate degree of elevation of the thermometer, 102 degrees, while the pulse at 100 gave the highest temperature, and the lowest pulse rate, that at 70 beats per minute, was attended by coloration and an elevation of the thermometer to 100 5 degrees. There was, therefore, no constant uniformity of relation between the two sets of phenomena (pp 270, 271)

Hemorrhagic Form —I can testify to the statement, that in this form the yellow coloration constantly appears during the primary pyrexial state and while it is at its height, with the pulse over 100, and the thermometer in the axilla registering 101 degrees, 102 degrees, or even 104 degrees, the thermometer indicates generally a less considerable elevation of temperature in the hemorrhagic than in the sthenic cases I have observed the pulse at 92 degrees and the thermometer at 101 degrees Fah in a most characteristic well-marked hemorrhagic case The pulse subsequently rose to 100, and 104 degrees in the same case, with elevations of the thermometer to 103 5 degrees and 103 degrees respectively, coloration of the skin being present to a marked extent I do not, however, think that the temperature is generally so high in this class of cases I believe that as a general rule the temperature in the hemorrhagic cases is from 2 degrees Fah under that in the sthenic form The transition from the sthenic to the hemorrhagic form is sometimes marked by a diminution in the rate and volume of the pulse, and a lowering of the thermometer, the patient's strength sinks rapidly at the same time, and in some cases a clammy sweat bedews the face for one or two days This state of things is followed by, as it were, an explosive and universal lesion in the vascular system, leading to profuse hemorrhages at all available points of the cutaneous and mucous surfaces (pp 274, 275)

"State of the Pulse —I have nothing to record of a characteristic or peculiar kind in reference to the pulse It is commonly less frequent than in the sthenic form, but has perhaps more of fullness and expansion, while its force is less I have carefully noted the condition of the pulse in numerous cases, and in no one instance have I met with anything approaching to the dicrotous character either before or during the height of the hemorrhagic invasion, and that it was a very rare condition in the Lisbon epidemic is evidenced by the circumstance that in the large experience of Dr M Figueira, and of the physicians to the Desturo Hospital, it was presented but once this observer could call to mind but one single case in which the pulse presented a well-marked dicrotous beat

"The rate of the pulse is variable, it is commonly over rather than under, 100 per minute It is most generally full soft and responsive, and wanting in force and rebound These, it will be observed are not very positive characters but in such were presented in the great majority of cases observed by me

"The pyrexial state is evidenced more decidedly by the state of the thermometer, which is usually over 100 degrees Fah There is much variety in this respect, but what is important, and what can be positively stated, is that the hemorrhages occur during the pyrexial period and with elevation of the pulse, and the thermometer above the standard Thus we have seen them presented with characteristic force and intensity, while the pulse was at 100, and the thermometer in the axilla stood at 103 5 degrees, but this latter is unquestionably an exceptional elevation for the form of the disease now under consideration (pp 376–377)"

My own investigations on the variations of temperature in different animals and in man under the action of various poisons and conditions of health and disease, and of climate, starvation and repletion, were begun in 1854, and have been continued without interruption up to the present time The opportunities of recording observations on the pulse, respiration and temperature in various diseases were greatly enlarged during the recent Civil War (1861–1865) In 1870, a special monograph relating to yellow fever was transmitted to the AMERICAN MEDICAL ASSOCIATION, and in 1873 I endeavored to excite various observers in those cities in which yellow fever was prevailing, as in New Orleans, Memphis, Shreveport and Pensacola, to record critical observations on the changes of the pulse, respiration and temperature of the disease The results of the portion of these labors which relate more especially to yellow fever will be found in the present chapter

The temperature according to Schmidtlein,[38] is highest in the first few days of yellow fever, and very often reaches a height of from 40 to 41 degrees C, (104 to 105 8 degrees F) Very frequently with slight evening exacerbations From the fourth to the fifth day the temperature slowly falls, and sinks down to normal or even below this In cases which end fatally, it rises again toward the end, some 2 degrees C (3 6 degrees F) or even more

According to Dr William N Nixon,[39] during the recent fatal epidemic of yellow fever in Buenos Ayres, 1870–1871, a high range of temperature was rapidly attained, and maintained with the exception of differences of portions of a degree between the night and morning temperature, the night returns being slightly higher than those of the preceding morning, the decline was quite gradual

I have refrained from citing the general observations of numerous writers, as Rush, Louis and a host of others, as to the presence of heat of surface in yellow fever, for they possess but little value for purposes of critical diagnosis, and confer little or no power of distinguishing between this disease and several other forms of malarial fever We have sought rather to record the actual observations with the thermometer A similar course will be pursued with reference to the changes of the pulse in this disease

The fullest and most reliable observations upon the pulse in yellow fever, with which we are acquainted, are those given by Daniel Blair, in his account of the last yellow fever epidemic of British Guiana, 3d edition, London, 1852 According to this accurate observer "The pulse was rarely very quick during any period of the disease It was highest in the first stage, and gradually declined in frequency Before death it generally became quicker and smaller, and when much fluid ejection occurred, it became extinct at wrist many hours before death During convalescence the pulse was uniformly slow when no complication existed The pulse was quickest in the cerebral variety In some cases when the disease determined to the intestines, the pulse became startlingly slow, even on the second day of the disease, thus in Mr MacRae's case it was 48, he recovered In Case 2,895 of Seaman's Hospital, the pulse on the sixth day of fever was 24 The insidious nature of some of the attacks (when the seat of the malady was the intestinal, urinary or pulmonary apparatus) the perfect care of the patient, the external air of good health, and the *solemnity of the pulse* in such cases, frequently inspired the practitioner with a kind of awe and horror of the new, treacherous and remorseless malady

In some cases of yellow fever, it seemed as if the poison acted directly, and at once, as a sedative on the heart, and in some cases there seemed a sudden and temporary excitability of it, which must have been favorable to the production of fatal local congestions

TABLE SHOWING THE AVERAGE PULSE ON DIFFERENT DAYS OF THE DISEASE WITH THE NUMBER OF OBSERVATIONS FROM WHICH EACH AVERAGE IS OBTAINED

No of Observations	Day of Disease	Average Pulse
121	1	97 40
338	2	90 80
406	3	83 53
388	4	80 44
311	5	75.56
206	6	78 74
125	7	78 78
71	8	75 62
46	9	75 76
29	10	77 58
16	11	76 87
7	12	76 00
5	13	79 20

Remarkable differences in the pulse are sometimes observed at different periods of the day

1 Examples of rising in frequency

Case 5,211 Morning, pulse 84, afternoon, pulse 126

Case 828 Morning, pulse 80, afternoon, pulse 108

Case 1,318 Morning of fifth day, pulse 70, afternoon, pulse 100

Case 986 Morning of third day, pulse 72, afternoon, pulse 120

Case 1,506 Morning of third day, pulse 52, afternoon pulse 86

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[38] On the Temperature in Diseases by Dr C A Wunderlich, p 405

[39] London Medical Times and Gazetteer 1871

Case 2,053 Morning, pulse 100, afternoon of fourth day, pulse 150
Case 2,215 Morning, pulse 112, afternoon of fourth day, pulse 156
Case 2,215 Morning, pulse 92, afternoon of eighth day, pulse 134

2 Examples of falling in frequency
Case 583 Morning, pulse 108, afternoon, pulse 54
Case 985 Morning, pulse 100, afternoon, pulse 72
Case 986 Morning of second day, pulse 120, afternoon, pulse 108
Case 1,137 Morning, pulse 96, afternoon, pulse 64
Case 1,277 Morning of second day, pulse 100, afternoon, pulse 64
Case 1,278 Morning of fifth day, pulse 120, afternoon, pulse 80

3 Examples of the falling and rising suddenly
Case 986 On second day falls from 120 to 108 On third day rises to 120 and again falls to 80
Case 1,318 On fifth day rises from 70 to 100, falls to 80 on morning of sixth, and to 50 in evening
Case 2,215 On fourth day rises from 112 to 156, and on eighth from 92 to 134

The pulse is often observed to rise or fall suddenly in frequency shortly before death

1 Examples of its rising
Case 381 On day of death, rises from 68 to 80
Case 656 On day of death, rises from 58 to 72
Case 2,080 On day of death rises from 88 to 120
Case 2 601 From 80 day before death to 110 on day of death
Case 2,609 On day of death rises from 78 to 100
Case 2 680 On day of death rises from 84 to 120
Case 2,712 From 80 day before death to 124
Case 2,775 From 100 day before death to 134 From 80 to 96 and 116 on day of death

2 Examples of its falling
Case 367 From 130 to 98 day before death, and again rises to 120
Case 656 From 84 to 54

Comparison of adult pulses in convalescence from virulent yellow fever with adult pulses in cases convalescent from inflammatory diseases where no febrile action had existed Made in Seaman's Hospital Sept 10, 1848

YELLOW FEVER

Name	Pulse	
Fletcher	50	Irregular
McLaren	56	Regular
Wilson	52	Regular
McTammany	58	Irregular
Allen	58	Regular
Total,	274	
Average pulse	54 4	

INFLAMMATORY CASES

Name	Pulse	Previous Diseases
Pease	115	Bronchitis, emphysema
Harding	102	Paracentitis
Hall	102	Asthma empyema
Power	90	Paracentitis, cough
Tynas	100	Suspected tubercular infiltration in right lung
Total,	509	
Average pulse	101.8	

ACCIDENTS AND AILMENTS WITHOUT FEVER

Name	Pulse	Previous Ailments
Purcell	76	Muscular pain
Sinclair	84	Eccentricity of conduct
Martin	84	Paralysis
Brian	84	Ankylosis of knee joint
Johnson	84	
Total,	412	
Average pulse	82 4	

NOTE —It is to be observed that these remarkable differences in the frequency of the pulse are rarely accompanied by corresponding febrile exacerbations Although the remarkable slowness of the pulse in convalescence from yellow fever was early observed the following limited trial for comparison by me on the subject is believed the only one which has been made The fact was observed before the experiment was instituted

Dr Davy remarks upon these observations in his notes to the work of Dr Blair "Slowness of pulse in connection with certain diseases of the abdominal viscera—not of an inflammatory kind, is worthy of remark Jaundice is a striking instance of this kind, less marked ones are met with in cases of functional derangement of the primæ viæ, though not without exceptions " "Unusual slowness of pulse was often observed in the yellow fever of Barbadoes, and commonly accompanied with undue coolness of skin, especially in the extremities, it was a remarkable feature of the disease after its first invasion,—the time varying in different cases The author's private observations on this symptom appear to me to be very valuable (pp 74-77) Recent observations in New Orleans have confirmed the accuracy of Dr Blair's statement with reference to the slowness of the pulse in yellow fever—as will be seen by an examination of the following table—which includes the labor of several observers working wholly independent of each other

Dr Porcher of Charleston, Dr Charles Faget,[40] Dr Just Finaste, Thomas Layton,[41] Prof Samuel Logan,[42] Dr Miner,[43] of New Orleans, Drs Saunders[44] and Mitchell[45] of Memphis, have recorded valuable observations on the changes of the temperature, pulse and respiration in yellow fever

Dr Charles Faget,[46] of New Orleans, who is well known to the profession in this country and in Europe, for the accuracy of his observations upon disease and for the depth and extent of his learning, has produced one of the most striking and valuable articles on the relations of the temperature and pulse in yellow fever

Dr Faget bases his conclusions on thirty-eight tables of cases, recorded during the yellow fever epidemic of 1870 in New Orleans, furnished as follows Sixteen by Dr Touatre, Physician to the French Asylum, some from the asylum, the rest from the city, seven by Professor Bemiss, all from the Charity Hospital, thermometer in the axilla, three by Dr Layton, and twelve by himself, the last fifteen from the very focus of the disease Drs Layton, Touatre and Faget took the temperature in the patient's mouth, placing the thermometer between the gums and cheek The main object of this article as announced by its author "is to prove that yellow fever is a fever of a *continuous* type, and that it takes its place as a *specific* fever, distinct from all other forms, and is especially to be distinguished from the *malarial species* "

Dr Faget thus places himself in accord with a host of writers on yellow fever, from the time of Lining, of Charlestown, S C, in 1754, to the present moment, including the names of Bally, Louis, Blair, Bennet

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[40] New Orleans Medical and Surgical Journal, 1873

[41] Reply to the Inquiries of Prof Jos Jones, of New Orleans, relating to the Temperature of Yellow Fever —New Orleans Medical and Surgical Journal, March 1874, p 695

[42] Bedside Notes on the Pulse, Temperature and Urine in Cases of Yellow Fever, Observed at Pensacola Navy Yard in the fall of 1874 —New Orleans Medical and Surgical Journal, May, 1875 p 779

[43] Yellow Fever Epidemic of Memphis, Tennessee, 1878 as observed by R LeMennier M D, N O J M 1874, pp 536 656

[44] Observations on the Yellow Fever Epidemic of 1873, at Memphis, Tenn By D D Saunders M.D Prepared in response to the request and inquiries of Prof Joseph Jones, M D, of New Orleans —New Orleans Medical and Surgical Journal, May 1874, p 791

[45] Yellow Fever in Memphis in 1878 By R W Mitchell, M D, of Memphis Tenn —Rich and Louisville Med Jour, May, 1874

[46] Type and Specific Character of True Yellow Fever, as shown by Observations taken with the Assistance of the Thermometer, Science and Watch By J C Faget, Member of the Société Médicale d' Observation New Orleans Medical and Surgical Journal 1878 The Type and Specificity of Yellow Fever, established with the aid of the Watch and Thermometer By Dr J C Faget of the Faculty of Paris New Orleans and Paris 1875

Dowler and John Harrison, of New Orleans, and in opposition to the school founded by Bancroft and ably supported by Chervin and his latter day followers who confounded true yellow fever with certain forms of malarial fever

(*To be continued*)

THE DISEASE OF INEBRIETY

ITS STUDY FROM THE STANDPOINT OF THE EXPERIENCE OF AMERICAN PHYSICIANS OF EMINENCE WHO HAVE WORKED IN THIS FIELD OF RESEARCH

BY EDWARD C MANN, M D
NEW YORK CITY

(*Continued from page 21*)

ALCOHOLIC IDIOSYNCRASY

Another class possesses an organization which may be termed an alcoholic idiosyncrasy, with them the latent desire for stimulants, if indulged, soon leads to habits of intemperance and eventually to a morbid appetite, which has all the characteristics of a diseased condition of the system, which the patient, unassisted is powerless to relieve—since the weakness of will that led to the disease obstructs its removal It might be well to divide inebriates into two other classes, the constant or daily, and the periodical drinkers Of these two classes the constant drinkers are the most susceptible of treatment and cure We find by a reference to the annual reports of the New York State Inebriate Asylum for the years, 1870, 1871 and 1872 the whole number of patients admitted during that time was 713 Of this number 402 were constant, and 311 periodical drinkers Out of the whole number the hereditary taint immediate or remote, existed in 347 cases, being nearly 50 per cent As the two diseases, inebriety and insanity are closely connected in both their manifestations and results, nearly the same remedies restraint and discipline are applicable to both conditions Although inebriety is temporary insanity, those suffering from mania for drink should not be confined with the actually insane, for it would have an injurious effect, nor on medical and dietetic grounds is it advisable

Prof Austin Flint says "Dipsomania is to be treated as a form of mental derangement" Dr Joseph Parrish says "Medical observations and diagnosis have determined that the diseased portion of the mind in cases of intemperance is the will, not the intellect The inebriate knows, but is impotent to perform For a better understanding of the requisite discipline demanded in the way of remedial restraint of inebriates, we notice some of the results of chronic inebriation, affecting more particularly the brain and nervous system—which in addition to the necessary medical treatment, necessitates strict discipline for the successful management of these cases We have alcoholic epilepsy, alcoholic mania, delirium tremens, tremors, hallucinations, insomnia, vertigo, mental and muscular debility, impairment of vision, mental depression, paralysis, a partial or total loss of self-respect and a departure of the power of self-control"

We are warranted in repeating, even with more emphasis, the principles formulated by this Association (the American Association for the Study and Cure of Inebriety) at their first meeting in 1870, substantially as follows

1 Intemperance is a disease

2 Its primary cause is a constitutional susceptibility to the alcoholic impression

3 The constitutional tendency may be inherited or acquired

4 It is curable in the same sense that other diseases are

It is now well established that inebriety is a formidable disease that may be inherited or acquired, and a disease that is closely connected with insanity in its manifestations and results, and to a certain extent in the means to be used for its removal and cure

MEDICAL TREATMENT

The peculiar medical treatment to be pursued must be left wholly in the hands of the officer in charge, who should be an experienced physician, especially adapted for the position He should be well informed in all matters pertaining to the disease, the treatment of which should be based upon a correct pathologic condition of the poisoning effects of alcohol on the different tissues and organs of the body, with a proper knowledge of the peculiar method to be pursued in individual cases, as well as a thorough understanding of the general practice essential for the cure of all inebriates The practice in some institutions of letting down patients by degrees in the use of stimulants is decidedly impolitic, unless the patient is in a much debilitated condition and likely to sink The general rule should be, cut off at once and altogether the use of alcohol in every form—more can be done by diet and medicine than can be obtained by a compromise in the moderate use of stimulants for a limited period It is a mistake to suppose that any special danger arises from stopping the accustomed stimulus Alcohol is a poison and we should discontinue its use at once as it can be done with safety and perfect impunity, except in very rare cases

To secure all the benefits to be derived from medical treatment, we should have institutions for the reception of inebriates where total abstinence can be rigidly, but judiciously enforced for a sufficient length of time to test the curative powers of absolute restraint from all intoxicating drinks When the craving for stimulants is irresistible, it is useless to make an attempt to reclaim and cure the drunkard unless the detention is compulsory, and there is complete restraint from all spirituous or alcoholic stimulus

Dr Francis Edward Anstie says "There is very little chance except forced abstinence, tonics, nutritive treatment and the regulation of the diet" Prof Austin Flint in speaking of the treatment says "The successful treatment is rarely practicable except by means of institutions, in which the patient is under the same restrictions as in insane asylums" The restraint imposed by the institution and the self-restraint accepted on the part of the patient, are remedial agents from the moment he enters, growing stronger and more effective day by day, until finally he finds total abstinence not only possible but permanent The hygienic and sanitary measures consist in total abstinence from all alcoholic beverages, good nourishing diet, well ventilated rooms, pure bracing air, mental rest and proper bodily exercise The patient should be required to be prompt at his attendance at meals and to observe regular hours for rising and retiring and to obey with military regularity and promptness all requirements that may be conducive to health, and the formation of new and better habits

LENGTH OF TIME NECESSARY TO A CURE

"The length of time necessary to cure inebriation is a very important consideration A habit covering five, ten or fifteen years can not be expected to be permanently eradicated in a week or a month The fact that the excessive use of stimulants for a long period of time has caused a radical change, physically, mentally and morally, is not only the strongest proof that its entire absence is necessary, but also that it requires a liberal allowance of time to effect a return to a normal condition The length of time necessary to the cure of inebriation will depend upon the duration of the disease and the amount of organic lesion which exists The shortest period of continuous restraint, as a general rule, should not be less than six months in the most hopeful cases, and extending from one to two years with the less hopeful and more especially for the class of periodical drinkers, and those with an hereditary tendency "

Dr Geo M Beard in a paper entitled, "Are Inebriates Automatons?" said "As an illustration of the involuntary life in disease, inebriety is one of the most interesting, as well as most difficult to comprehend So long as a man is merely a drunkard, or a victim of the vice of drinking to excess, he has it in his power to reform if he has a good endowment of will and can keep out of temptation But in the disease of inebriety the sufferer has little or no more volitional control over his drinking symptoms than has a sufferer from malaria, or from sick headache or from hay-fever All the influence he can exert over himself in the way of reform must be *indirect*—through the avoidance of the exciting causes whatever they may be, and in order to do this, it is oftentimes necessary for him to have the aid of outside parties When his environment is bad, when temptation is before him, he has, practically, no will in this special relation, but is as truly an automaton as a patient in the horrors of tic-douloureux or smallpox, subject to the varying influence of weather, of wind, of diet, of medication, of mental influence in every form, the inebriate is, indeed, not himself but somebody else In perfect health, man is a bundle of reflex actions, with a very small margin of volitional life, but in a disease of the nervous system, like inebriety, this small margin of what we call volition is swept away, and the man is an automaton so long as he is in the face of environment that excites the morbid desire and has no other method of exhibiting his manhood than by changing his environment, which he is oftentimes powerless to do without external aid, for the very effect of the environment is to take away the power of changing it, which is the very thing desired Periodical inebriates, in the interval of their attacks, often put themselves under the charge of some friend, or enter an asylum, or leave the vicinity of temptation and this infinitesimal fraction is all that is left of their volition "

Dr T D Crothers in writing on the "Etiology of Inebriety," says "In discussing the causes of inebriety, we start from the broadest theory of cerebral defect as manifest in perversions of the nutritive functions and enfeebled will-power Facts and experience clearly indicate that inebriety, from whatever cause, is a disease or stage of disease, either primary or secondary, as well marked as fever and chills in malaria, or anesthesia and immobility in paralysis The craving for liquor and the morbid impulse to commit crime are the same, the act is repelling to the higher reason in both, but the perverted will-power and function assumes control, and maintains it through the weakened organism The degenerative processes often remain dormant for a long time, then on the application of its peculiar stimuli suddenly spring into activity The brain and physical system may give no evidence of defect or derangement, or if any, only momentary, and yet the malady be far advanced In general terms, this disease is always dependent on the dynamic and physical changes in the molecular neurine of the nerve centers It may arise from causes acting on the functional energy, or from general systemic conditions which may be exciting or predisposing The exciting causes produce changes of structure or function which constitute disease, or awaken latent tendencies to it The predisposing causes induce such a state of the system or some part of it as shall dispose to certain kinds of malady and weaken the power of resisting morbific agencies Inebriety can always be referred back to some special condition, circumstance, event or alteration of structure or function which, although it may not be clearly understood, constitutes the starting point of the disorder

"In an examination of a large number of confirmed inebriates at the Albany Penitentiary, this statement was confirmed in nearly every case A study of the particular causes indicate three classes or groups

"1 Inherited causes, direct or indirect, including the diathesis or cachexia

"2 Such general causes as produce inebriety in common with other insanities

"3 Conditions and circumstances which particularly favor the development of inebriety The strumous diathesis and cachexia, a syphilitic diathesis and cachexia, an arthritic diathesis and cachexia all tend to produce inebriety

"The second group, called general causes, are those which frequently produce inebriety in common with other insanities Of these, mechanical injuries seem prominent, such as injuries or concussions of the brain and the spinal cord and consequent alterations of nutrition Blows on the head are not infrequently followed by violent paroxysmal drunkenness, railroad accidents, where the concussion and surprise are sudden and overwhelming, causing intense reaction on the nervous system (producing insignificant physical lesions), often develop inebriety and mania A chaplain in the late war, injured in the leg by a shell (unexpectedly) although but a simple flesh wound, was several months in the hospital before recovery From this time he became an uncontrollable drunkard and eventually died A prominent physician was precipitated from his carriage falling on the head, and received a flesh wound of a minor character Very soon after, inebriety was developed and he ended his life a raving maniac in an asylum This rule in many cases indicates that injuries of the brain, spinal cord or any part involving numerous nerve trunks may end in cerebral disturbance of which drunkenness is a very common stage of the lesion The injury being small in comparison to the mental disturbance which follows

"Peripheral irritation or reflex excitability has been noticed as a common cause in many cases A

London physician describes two cases where tapeworms excited inebriety and mental hallucinations, which disappeared on their expulsion Several instances are on record where the use of pessaries in prolapsus uteri, and the prolapsus alone, has been the cause of mental disturbances of which drunkenness was the most prominent symptom The irritation from prolonged lactation, or in dysmenorrhea, amenorrhea, nymphomania and fundamental disturbances of the genital organs, are frequently the beginnings, and in many cases the active causes of the disease Numerous cases of puerperal insanity, preceded or followed by inebriety, are recorded in the English obstetrical journals Cases of drunkenness during pregnancy, ending at delivery, are not uncommon A remarkable case was noted at the Dublin Lying in Hospital some years ago, of a woman who, during the period of lactation drank gin to excess This craving for stimulus began when the child was born and continued until the death or weaning of the child, the former being the most common termination When lactation ceased the desire died away Another case of equal interest is reported in a Western journal A soldier wounded at Pittsburg Landing previously temperate, became a paroxysmal drunkard A portion of the shaft of the femur was injured, and continued to exfoliate dead bone until 1873, when it was removed by an operation From the healing of the wound his drunkenness disappeared, and he is now one of the most enthusiastic of temperance men

"Previous diseases are also active causes Cerebral epilepsy, with its disordered fancies, auras and impulses ending in apparent recovery, only to be followed in time by a repetition, closely simulating the impulsive drunkard The connection between inebriety and epilepsy is far more intimate than we are aware

"Dietetic diseases—indigestion, inflammation of the stomach and liver often leave a train of predisposing causes Exhaustive intellectual and physical exertion, by breaking up healthy cerebral action develops insane longings Over stimulation of the brain ends in changes and perverted tastes for alcohol or narcotics of some kind Scholars and those who use the mind to excess, and laborers who only exert the physical system, when exhausted from overwork, have unnatural longings for something to restore the lost balance of mind and body A prominent Senator spent thirty hours continuously in the preparation and delivery of a speech, and became an inebriate from that time The sudden loss of property, disappointment, trouble, unrequited affections, may so depress the vital powers and disturb the circulation that drunkenness or insanity or both will follow Ambition to lead, where it becomes a dominant passion, filling up every moment of thought, lowers the nutritive functions and leads directly to perversion of taste Religious activity where the mind overflows with sentiment and emotion, may react into violent gluttonness or inebriety No class of men are so thoroughly dyspeptic as clergymen and lawyers, simply the reaction of the mind to restore the equilibrium broken up by exhaustive labor In every community large numbers of this class are on the verge of inebriety, all they need is the exciting cause, the fertile field is prepared to receive it

"The perpetuity of the race depends upon the education received from both school and parent If the child grows up surrounded with unnatural morbid influences, ignorant indulgences and worse school education its ruin is inevitable

"Under the third group are included all those conditions and circumstances which seem to particularly favor the development of inebriety Of these, age has a controlling influence Inebriety occurs at a time when the brain has reached its period of fullest activity The brain power of infancy and youth can not bear much irritation without peril, its circulation is more rapid and susceptible to sudden fluctuations which are intense in their influence This is apparent in the cases of permanent injury which follow from fear, anger or sudden emotions that profoundly impress the organism At this time of life, organic changes take place which have a correlative mental transformation, the active degree of ennervation existing makes the entire body extremely susceptible to commotions, in both the organic and mental development I believe that future observations will indicate that inebriety begins here, although its development may be delayed for years Sex, social condition, the season, weather, barometrical changes, unhealthy mental, physical and social surroundings, continuous excitement, and dark, damp, low places of residence are all causes of inebriety The temperature and conditions of surroundings are evidently active causes High degrees of heat and cold may so far impair the nutrition of the nerves, or produce paresis of the vasomotor centers as to result in inebriety Sunstroke, inflammations, congestions and similar disorders of the brain cells coming from extremes of heat and cold are often followed by drunkenness

"The captain of a South American steamer informed me that the firemen and most of the men employed (for any length of time) in this service became drunkards, this he attributed to the extremes of climate, and the heat to which they were constantly exposed Leaving New York in midwinter, within a few days they are in a tropical temperature, then back again from the literal summer of the equator to the frequent polar temperature of New York Inquiry among the furnace men of Albany and Troy indicates the same facts, men exposed to a high heat after a time (to a large extent), become inebriates

"Mental diseases are found to be largely controlled by cosmical influences, such as electrical phenomena, lunar attractions, velocities and directions of winds, geological formations, elevation above the sea level, etc A professional man of great intelligence who is an inebriate becomes restless, depressed, and has headache and irregularity of temper when the wind blows from the south, and a storm is impending, also before a thunder storm If he can resist the craving for liquor until the storm is over he is safe, but if the moon be at a change and the storm is delayed, he loses all control and has a paroxysm of drinking

"In this very general review of the numerous causes, we have only indicated some of the great landmarks, leaving the wide field of hill and valley untouched

"A brief summary may be indicated as follows

"1 Inebriety or dipsomania, as a mental and physical disease, always is preceded by some special condition, circumstance or event, or alteration of structure

"2 As in other diseases, the causes are numerous and complex, either acting alone or together, increasing or diminishing, depending upon conditions not well understood

"3 Its hereditary character and diathesis present many positive indications, which forecast its progress, and render its study a practical necessity to every student of science

"4 As a stage or symptom of other disease, or a sequence, its causes and progress may be more obscure, but they have certain definite beginnings and endings, which a more accurate study will reveal

"5 As a disease of accident or coincident, and circumstances or surroundings, its history and growth may be anticipated at every stage, and its result prognosed with certainty

"6 Inebriety affecting the nutritive functions first, and after that the mind or *vice versa*, offers the widest field for research, and its pathologic and therapeutic relations extend over the entire realm of social and mental science "

Dr Lewis D Mason says 'It is our duty, then, when patients are sent to us or are sent to an asylum, to investigate the exciting cause of their inebriety If it is some painful disorder and the patient tells us that he uses alcohol to relieve his pain, our course is at once apparent, to cure his disease or find some substitute for the alcohol If we can not remove the cause, or find some efficient substitute for the alcohol, the patient passes to the incurable class of inebriates, a class that needs medical care as much as the incurable insane, requiring the treatment and restraint which only an asylum can give, for their constant or irregular resort to stimulants places them among the irresponsible classes of society So whether curable or incurable, these persons who demand our heartiest sympathy will certainly present themselves How we shall be enabled to recognize the possible exciting cause of their inebriety and perhaps forecast their future, is the object of this paper to point out "

Medical Students in Attendance on the Sessions of 1894-95 in the United States and Canada

[Compiled for the JOURNAL by F W Reilly, M D]

In order to preserve the sequence of the Reports on Medical Education in the United States, and Canada, inaugurated and for many years so usefully carried on, by the late Dr John H Rauch, and subsequently continued by his assistant and successor, Dr F W Reilly, the following circular letter was addressed last fall to the Deans, Registrars or Secretaries of 117 medical colleges which conducted lecture courses in 1893

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
86 FIFTH AVENUE
CHICAGO, ILL , Oct 29, 1894

My Dear Doctor —The JOURNAL desires "to take an account of stock" of the medical students in attendance at the current sessions of American Medical Colleges, and, to this end, forwards you the inclosed form which, it is hoped, will require from you a minimum outlay of time and trouble in filling up

If not convenient to give the figures for all of the five sessions, it is desired that the numbers for 1893-94 and 1894-95 at least be furnished

It is not now foreseen that mention of individual Colleges will be necessary or useful in the compilation, but no names of Colleges will be so used without express consent

Inclosed please find stamped envelope for return of filled-out blank

Faithfully yours,
JOHN B HAMILTON, M D EDITOR

The "inclosed form" provided for the name of the college, the name, address and official title of the respondent, returns of the numbers of students in attendance, by grades, at the sessions of 1890-91 to 1894-95 inclusive and a statement of the views of the respondent as to the cause or causes of any unusual increase or any decrease in the attendance at the present session

This request was addressed to the following named institutions *

Medical College of Alabama (1859) Mobile, Ala
*Medical Department, Arkansas Industrial University (1879) Little Rock, Ark
Cooper Medical College (1859) San Francisco, Cal
Medical Department, University of California (1863) San Francisco, Cal
*College of Medicine, University of Southern California (1885) Los Angelos, Cal
*Denver Medical College (1881) Denver, Col
*Medical Department University of Colorado (1883) Denver, Col
Gross Medical College (1887) Denver, Col
*Medical Department, Yale University (1810) New Haven, Conn
*National Medical College (1821) Washington, D C
Medical Department, University of Georgetown (1850) Washington, D C
Medical Department, Howard University (1867) Washington, D C
Medical College of Georgia (1828) Augusta, Ga
Atlanta Medical College (1854) Atlanta, Ga
*Southern Medical College (1879) Atlanta, Ga
Rush Medical College (1842) Chicago, Ill
Northwestern University Medical School (1859) Chicago, Ill
Northwestern University Woman's Medical School (1870) Chicago, Ill
College of Physicians and Surgeons of Chicago (1882) Chicago, Ill
Medical College of Indiana (1878) Indianapolis, Ind
Central College of Physicians and Surgeons (1879) Indianapolis, Ind
Fort Wayne College of Medicine (1889) Fort Wayne, Ind
College of Physicians and Surgeons of Keokuk (1850) Keokuk, Iowa
Medical Department, State University of Iowa (1870) Iowa City, Iowa
Iowa College of Physicians and Surgeons (1882) Des Moines, Iowa
Keokuk Medical College (1890) Keokuk, Iowa
*Council Bluffs Medical College (1893) Council Bluffs, Iowa
*Kansas Medical College (1889) Topeka, Kan
University of Louisville, Medical Department (1837) Louisville, Ky
*Kentucky School of Medicine (1850) Louisville, Ky
Louisville Medical College (1869) Louisville, Ky
Hospital College of Medicine (1873) Louisville, Ky
*Medical Department, Tulane University of Louisiana (1834) New Orleans, La
Medical Department, New Orleans University (1889) New Orleans, La
Medical School of Maine at Bowdoin College (1820) Brunswick, Me
University of Maryland School of Medicine (1807) Baltimore, Md
College of Physicians and Surgeons of Baltimore (1872) Baltimore, Md
Baltimore Medical College (1881) Baltimore, Md
*Woman's Medical College of Baltimore (1882) Baltimore, Md
Baltimore University School of Medicine (1884) Baltimore, Md
Johns Hopkins Medical College (1893) Baltimore, Md
Harvard University Medical School (1782) Boston, Mass
College of Physicians and Surgeons (1880) Boston, Mass
*Tufts College Medical School (1893) Boston, Mass
*Michigan University, Department of Medicine and Surgery (1850) Ann Arbor, Mich
Detroit College of Medicine (1885) Detroit, Mich
Michigan College of Medicine and Surgery, (1888) Detroit, Mich

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*The colleges are here named in the alphabetical order of States and in the chronological order of dates of organization in each State group, the figures inclosed in parentheses indicate the year of organization

*College of Medicine and Surgery, University of Minnesota (1883) Minneapolis Minn
*Minneapolis College of Physicians and Surgeons (1883) Minneapolis Minn
*Missouri Medical College (1840) St Louis, Mo
*St Louis Medical College (1841) St Louis Mo
Medical Department, University of the State of Missouri (1845) Columbia, Mo
Kansas City Medical College (1869) Kansas City, Mo
*St Louis College of Physicians and Surgeons (1869) St Louis, Mo
Northwestern Medical College of St Joseph (1880) St Joseph, Mo
University Medical College of Kansas City (1881) Kansas City, Mo
*Ensworth Medical College and Hospital (1882) St Joseph Mo
Beaumont Hospital Medical College (1886) St Louis, Mo
Marion Sims Medical College (1890) St Louis, Mo
*Barnes' Medical College (1891) St Louis, Mo
*Woman s Medical College and Hospital Association (1891) St Louis, Mo
*Omaha Medical College (1881) Omaha Neb
John A Creighton Medical College (1892) Omaha, Neb
*Dartmouth Medical College (1797) Hanover, N H
*College of Physicians and Surgeons of Columbia College in the City of New York (1807) New York City
*Albany Medical College (1838) Albany, N Y
University Medical College (1841) New York City
*Medical Department, University of Buffalo (1846) Buffalo, New York
*Long Island College Hospital (1861) Brooklyn, N Y
Bellevue Hospital Medical College (1861) New York City
Woman's Medical College of the New York Infirmary (1865) New York City
*Syracuse University College of Medicine (1872) Syracuse, New York
*Medical Department of Niagara University (1883) Buffalo, New York
Leonard Medical School (1882) Raleigh, N C
North Carolina Medical College (1893) Davidson, N C
Medical College of Ohio (1819) Cincinnati Ohio
*Medical Department, Western Reserve University (1843) Cleveland, Ohio
*Starling Medical College (1847) Columbus Ohio
Cincinnati College of Medicine and Surgery (1849) Cincinnati, Ohio
Miami Medical College (1852) Cincinnati, Ohio
*Medical Department, University of Wooster (1863) Cleveland, Ohio
*Toledo Medical College (1883) Toledo, Ohio
Woman's Medical College of Cincinnati (1887) Cincinnati, Ohio
Ohio Medical University (1890) Columbus, Ohio
*Presbyterian Hospital Woman's Medical College (1891) Cincinnati, Ohio
*Medical Department of Willamette University (1864) Portland, Oregon
*Medical Department, University of Oregon (1887) Portland, Oregon
*University of Pennsylvania Medical Department (1765) Philadelphia, Pa
*Jefferson Medical College (1826) Philadelphia, Pa
Woman's Medical College of Pennsylvania (1850) Philadelphia, Pa
Medico Chirurgical College of Philadelphia (1881) Philadelphia, Pa
*Medical Department, University of Western Pennsylvania (1886) Pittsburg, Pa
*Medical College of the State of South Carolina (1832) Charleston South Carolina
Medical Department of the University of Nashville and Vanderbilt (1850) Nashville, Tenn
Nashville Medical College (1876) Nashville, Tenn
Meharry Medical Department of Central Tennessee College (1876) Nashville, Tenn
Memphis Hospital Medical College (1880) Memphis, Tenn,
*Tennessee Medical College (1889) Knoxville, Tenn
Chattanooga Medical College (1889) Chattanooga, Tenn
Sewanee Medical College (1891) Sewanee, Tenn
*Medical Department, University of Texas (1891) Galveston, Texas
Medical Department University of Vermont (1823) Burlington, Vt
*University of Virginia (1825) Charlottesville, Va
*Medical College of Virginia (1838) Richmond, Va
University College of Medicine (1893) Richmond, Va
Wisconsin College of Physicians and Surgeons (1893) Milwaukee, Wis
McGill University Faculty of Medicine (1824) Montreal, Quebec
*University of Toronto Medical College (1843) Toronto, Ontario
*Faculty of Medicine Laval University (1843) Montreal, Quebec
*Trinity Medical College (1850) Toronto, Ontario
Laval University at Quebec, Medical Department (1852) Quebec
Royal College of Physicians and Surgeons (1854) Kingston, Ontario
Halifax Medical College (1867) Halifax, N S
University of Bishop's College, Faculty of Medicine (1870) Montreal, Quebec
Medical Department, Western University (1882) London, Ontario
*Ontario Medical College for Women (1883) Toronto, Ontario
Women's Medical College of Kingston (1883) Kingston, Ontario
Manitoba Medical College (1883) Winnipeg, Ma

Within three weeks of the date of the first circular, forty-nine colleges had responded, and on November 19 another circular letter was addressed to the sixty-eight from which no returns had then been received It seems proper to make this statement because most of the colleges which first replied did so before their classes were fully made up for the session and there is, consequently, a shortage in the total actual attendance, the forty nine colleges which first responded are indicated in the above list by *—this for the purpose of securing proper allowance for their incomplete returns

The addition of three colleges which reported subsequent to the tabulation which formed the basis of the editorial on the "Increase of the Medical Student Class," in the JOURNAL of Dec 20, 1894, somewhat reduces the estimated total attendance therein given In 1892 the 101 colleges whose returns are above given reported a total attendance of 15,695 out of a grand total of 18,340—or 85 5 per cent of the aggregate attendance at 117 colleges For 1893 they report, as above, an attendance of 15,865, which is 85 5 per cent of 18 500, for 1894 they report an attendance of 17,784, which is 85 5 per cent of 20,800—the aggregate attendance of the sessions of 1894–95

These figures show a very slight increase in the classes of 1893 over those of 1892—only 160, or a fraction less than 1 per cent, while for the current sessions the increase is 12 4 per cent over the sessions of 1893 This great gain in the student class seems to be at the expense of higher medical education, in 1893 there were 803 four year students in attendance, this year there are only 781—a loss of 2 7 per cent

The following figures furnish some interesting comparisons

United Kingdom (Great Britain and Ireland), 8 696 total registered medical students between 1889 and 1893, for the year 1893, based on yearly accretions, 7,000,* population, 37 000,000

France, total number medical students inscribed on the books of the Paris Faculty of Medicine for 1894, 5,144,† population, 40,000,000

Germany, total number medical students registered for 1894, 8,684,‡ population, 50,000,000

United States and Canada, total number medical students in attendance sessions of 1894, 20 800, population, 70,000,000

Proportions In the United Kingdom, 1 medical student to 5,286 of population, in France, 1 to 7,776 of population, in Germany, 1 to 5,757 of population, in the United States and Canada, 1 to 8,865 of population

From the replies received and authorized for publication the accompanying table has been compiled

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* Correcting the statement of 'an American contemporary"—that "England has but 652 medical students —the British Medical Journal of Dec 22 1894 says 'In 1893 the number of freshmen in the medical schools of England Scotland and Ireland was 1,742, and by adding up the entries of the last four years it is clear that at present there must be over seven thousand students in the medical schools of the United Kingdom" This is more than four times as many as estimated in the JOURNAL editorial based upon Sir Richard Quain's figures

† Brouardel ‡ Ascherson

TABLE SHOWING NUMBER OF STUDENTS IN ATTENDANCE AT ONE HUNDRED AND ONE COLLEGES IN THE UNITED STA CANADA SESSIONS OF 1894-95, 1893-94, AND AVERAGE YEARLY ATTENDANCE OF PREVIOUS YEARS

COLLEGES	Students in Attendance, by Grades 1894-5				Total Attendance 1894-5	Total Attendance, 1893-4	Average Yearly Attendance 1889-90, 1893-94	Per Cent crease or D	
	1st	2d	3d	4th				1894-95 compared with 1893-94	co wit
Medical College of Alabama	53	32	16		101	102	128	— 98	—
[1] Medical Department Arkansas Industrial University	50	22	3		75	74	85	1 3+	—1
[2] Cooper Medical College	75	78	75		228	228	160		4
Medical Department University of California	33	46	66		145	109	80	33 +	6
College of Medicine University of Southern California	18	16	10		44	37	30	18 9+	4
[3] Denver Medical College	10	15	13		38	38	48		—1
[4] Medical Department University of Colorado	20	15	15		50	35	23	42 8+	117
Gross Medical College					72	18	51	—10	41
[5] Medical Department Yale University	60	20	14		94	73	65	28 7+	44
[6] National Medical College	75	40		55	170	151	151	12 5+	12
[7] Medical Department University of Georgetown	39	36	35	11	121	136	116	—11	4
[8] Medical Department Howard University	48	36	10	25	119		107		11
Atlanta Medical College	50	160			210	173	168	21 4+	28
[9] Southern Medical College	52	15	14		82	81	87	1 2+	—5
Rush Medical College	330	300	170		800	767	613	4 2+	30
Northwestern University Medical College	96	76	93	8	265	252	259	5 1+	2
[10] College of Physicians and Surgeons of Chicago	67	58	40	86	246	288	222	—14 5	10 8
[11] Central College of Physicians and Surgeons					52	38	36	36 8+	44 4
[12] College of Physicians and Surgeons of Keokuk	122	78	33	5	238	176	141	35 2+	68 8
Medical Department State University of Iowa	85	65	43		193	162	115	19 1+	83 1
Iowa College of Physicians and Surgeons	35	15	13		63	48	39	31 2+	61 5
Keokuk Medical College	61	42	40		143	143	145		—1 3
Council Bluffs Medical College	5	9			14	12		16 6+	
Kansas Medical College	29	18	8		55	45	44	22 2+	25 +
Kentucky School of Medicine					426	504	440	—15 4	—3 2
Hospital College of Medicine					210	123	127	70 7+	65 9+
[13] Medical Department New Orleans University	11	12	5		28	36	19	—22 2	47 3+
Medical School of Maine	58	80	30	8	116	97	95	19 6+	21 5+
College of Physicians and Surgeons of Baltimore	167	168	119	8	462	461	470	2+	—1 7
[14] Baltimore Medical College	140	106	116	8	409	303	219	35 1+	86 7+
Woman's Medical College of Baltimore	28	8	4	2	42	20	22	110 +	90 9+
[15] Johns Hopkins University	32	19			51	18		183 3+	
Harvard University Medical School	182	124	96	34	486	420	282	8 9+	14 1+
College of Physicians and Surgeons of Boston	43	77	10		120	137	87	—12 4	37 9+
Tufts College Medical School	41	23	21		85	72		18 +	
[16] Michigan Univ , Department of Medicine and Surgery	116	101	66	65	348	380	364	—8 4	—4 3
Detroit College of Medicine	111	95	78		284	285	218	— 35	30 2+
Michigan College of Medicine and Surgery	53	41	22	5	121	118	115	2 5+	5 2+
College of Medicine and Surgery Univ of Minnesota	102	66	58		221	181	141	22 +	56 7+
[17] Minneapolis College of Physicians and Surgeons	22	17	18		57	13			
Missouri Medical College	76	64	74	2	216	182	190	18 6+	13 6+
St Louis Medical College	43	41	26		110	95	121	15 7+	— 9
Medical Department University of the State of Missouri	22	12	5		39	89	37	5 4+	5 4+
Kansas City Medical College	34	48	31		113	109	88	8 6+	28 4+
[18] St Louis College of Physicians and Surgeons	106	94	42	14	256	140	183	82 8+	40 +
[19] University Medical College Kansas City	65	52	39		156	119	100	31 +	56 +
[20] Ensworth Medical College and Hospital						38	56		
Barnes Medical College	108	92	92	28	315	236	249	33 4+	26 5+
[21] Woman's Medical College of St Louis	18	9	4		31	43	26	—28	19 2+
Omaha Medical College	38	25	24		87	75	49	16 +	77 5+
John A Creighton Medical College	11	25	15		51	33		54 5+	
[22] Dartmouth Medical College					139	114	100	21 9+	39 +
[23] College of Physicians and Surgeons of Columbia College	222	241	231	88	777	786	630	—1 1	23 3+
[24] Albany Medical College	76	58	58		187	173	165	8 +	18 3+
[25] University Medical College New York City	152	111	114		377	365	531	3 3+	—29
Medical Department, University of Buffalo	93	84	64		241	188	184	28 +	31 +
[26] Long Island College Hospital	95	63	59	24	241	255	231	—5 8	4 3+
[27] Bellevue Hospital Medical College	120	110	115		405	407	419	— 5	—3 4
[28] Woman's Medical College of the New York Infirmary	33	19	34		86	82	86	4 8+	
Syracuse University College of Medicine	34	30	17		81	61	54	32 8+	50 +
Medical Department of Niagara University	21	23	19	3	66	57	48	19 3+	37 5+
Leonard Medical College, Shaw University	13	9	15	11	48	57	49	—15 8	—2
North Carolina Medical College					24	16		50 +	
Medical College of Ohio					296	242	237	22 3+	24 8+
[29] Medical Department, Western Reserve University	42	32	32		106	93	130	14 +	—18 4
Starling Medical College	122	99	86		287	223	165	28 7+	73 9+
[30] Miami Medical College					95	92	89	3 2+	6 7+
[31] Toledo Medical College	21	20	9		50	38	38	31 5+	31 5+
Woman's Medical College of Cincinnati	15	10	9	1	35		26	34 6+	
[32] Ohio Medical University	56	29	26		141	79	80	78 5+	78 4+
Medical Department of Willamette University	14	15	7		34	36	31	—5 5	9 7+
[33] Medical Department, University of Oregon	23	12	7		42	29	23	45 +	82 6+
[34] University of Pennsylvania, Medical Department	244	106	352		792	787	671	6+	18 +
[35] Jefferson Medical College	220	251	225		726	640	591	17 8+	25 4+
[36] Woman's Medical College of Pennsylvania					168	192	192	—12 5	—12 5
Medico Chirurgical College	74	54	81		209	181	140	13 +	49 3+
[37] Medical Department, Univ of Western Pennsylvania	115	94	72		281	262	184	7 2+	52 6+
[38] Medical College of the State of South Carolina	25	30	25		80	70	60	14 3+	35 8
Nashville Medical College					180	234	251	—28	—24 2
[39] Meharry Medical College	37	32	31		101	107	90	—5 6	12 2+
[40] Tennessee Medical College	32	22	12		66	79	68	—16 4	—12 9
[41] Sewanee Medical College					47	25		67 8+	
Medical Department, University of Texas	85	55	8		148	116	55	27 6+	169 1+
Medical Department, University of Vermont					202	192	190	4 9+	6 3+
University of Virginia	86	82			168	143	130	17 4+	29 2+
[42] Medical College of Virginia	53	57	7	15	132	96	67	37 5+	97 +
Wisconsin College of Physicians and Surgeons	16	15	3		34	31		9 7+	
[43] McGill University, Faculty of Medicine	111	120	95	70	398	350	237	13 7+	67 9+
Faculty of Medicine Laval University	45	45	55	50	247	286	280	—13 6	—16
Trinity Medical College					306		292		4 8+
Halifax Medical College	26	7	8	6	43		33		30 3+
University of Bishop's College Faculty of Medicine					64	54	52	11 1+	15 4+
[44] Manitoba Medical College	45	36	23	26	130	101	76	28 7+	71 +
Ontario Medical College for Women	9	10	7	11	37	34	34	8 8+	8 8+
Anonymous Schools	356	322	221	118	*1057	1057	910		16 1+

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[1] A number preceding a college title refers to a note or comment bearing the same number in the Notes and Comments column following this Table

* Including 40 specials

The foregoing table gives the following aggregates for the 101 reporting Colleges including 7 not specified by name, but whose totals are given under the title "Anonymous Schools"

First year students	6 108
Second year students	5,218
Third year students	3 098
Fourth year students	781
Special and irregulars	2 569

Aggregate attendance, 1894	17 781
Aggregate attendance 1893	15,865
Aggregate average previous years	14 559
Percentages of increase	
1893 over average of previous years	8 0
1894 over 1893	12 1
1894 over average of previous years	22 1

NOTES AND COMMENTS

[1] Estimated, return made "first day of regular winter term, students not all in Decrease in numbers since 1891-92 due to adoption of three years' compulsory course"

"We have just adopted a four year curriculum In the first year of the table, seventy-five includes students of the first and second years of the four year course i e, first year thirty seven, second year thirty eight, total seventy five I may say in addition that these figures include from two to five physicians each year—as well as a number each year who do not 'stick' but as the same occurs at other colleges I presume these figures will afford basis for comparison"

[3] "The decrease in our attendance can be directly traced to the unequal competition of a State school removing to Denver and taking any student who applies at no cost to the student whatever It also means that our standard has been *maintained*"

[4] "Four years' course begins with the session of 1895-96 A large increase occurred in sessions of 1893-94 owing to second and third years being taught in Denver instead of Boulder giving good clinical advantages The increase seems likely to continue"

You will note that there has uniformly been a larger number of students in the first year than in the second or third This has been due to the fact that a very considerable number of students fail at the end of the first year, and therefore have to repeat their work Our entrance requirements are placed at the high school grade in the subjects in which we require examinations and these requirements are well *enforced* yet we have this large percentage of failures of men who can not stand the work of our first year I do not know whether this is the experience elsewhere but certainly our matriculation requirements are higher than the average of the country and the whole thing seems to me to be a strong argument *for the necessity of a* higher grade of matriculation I have felt for some time that this increase in the matriculation requirement was more needed *in this* country than the increase of time of study, that is, that three years with well prepared students would be better for the profession than a larger number of students kept at their professional work for a year longer This opinion however, does not seem to be the one which has prevailed We have delayed starting the four years' course, hoping that there would be a general increase in matriculation requirements first and while we do not altogether give up the hope of increasing matriculation examinations we are about to adopt the four years' course in conformity with the other schools of the better class I wish you might have included in your examination, the question of the proportion of medical students who are college graduates and whether this is increasing or diminishing"

[6] "In this list the third and fourth years are given together, as last year was the beginning of the four year system"

'A large number of students who matriculated last year withdrew and went to schools with a three year course The four-year course was made obligatory last year This probably reduced the number of matriculates this year"

[8] 'Four years' course began with the session of 1892-93"

[9] "The scholastic year has just been changed to a three year term, and *this is the first year of such change*"

[10] 'Small attendance in our second course is attributed to the fact that those who attended with us in 1893-94 can graduate in ——— Medical College at end of this term, while we would require *them to attend until end of 1895-96* Those seeking early graduation have thus left us The large increase in our first year course is due to the school having adopted a three-year graded course and having by hard work *for* fifteen years established a very *good* reputation for giving thorough instruction" Total attendance 1894-95 (82) includes 'one fourth year" The college, however, is not a four year school

[11] "The reason of *decrease* is *on account* of the grade being raised and examination more difficult, also our course being four years instead of three"

[12] "There is a larger percentage of students who have attended literary colleges than in any former year"

[13] "Faculty reorganized in 1890-91, with resulting steady improvement in size of the class"

[14] "Our school two years ago adopted a four years' course of study"

[15] Total 109 includes "two fifth year, one eighth year and thirty six" not graded at date of making report

[16] Attendance 1893-94 includes three women, first year, 1894-95 includes eight women, second year 1894-95 includes two women "Our medical school is now in its second year A noteworthy fact is that all of the fifty two persons admitted in the two years are graduates of a reputable college, holding baccalaureate degrees, and several of them have pursued graduate studies in the sciences after completing their college work In addition to these undergraduates in medicine, a large number of physicians are attending special courses in the Johns Hopkins Hospital given by University professors 1893-94—65, 1894-95 (to November 21) —44"

[17] "The large senior classes in 1891 and 1892 were due to the fact that in 1890 we changed from a three to a four years' course This change, which was announced some years beforehand, brought us large classes in 1888 and 1889, students realizing that if they entered later than 1889 they would have to spend four years here The small senior class in 1893 is explained in the same way It appears from the figures that we have fewer medical students than we had last year This is not true The number is about the same as it was this time last year There are always students coming here in the fall who are unprepared to enter the medical course and have to do some work in the literary department or in *the high school before they can enter Some of these will* enter the medical department at the beginning of the second semester They will not be able to graduate with those who entered this last October, but it will increase the number of *students appearing on* our register when it is *published next spring*"

[18] "This college was reorganized last year so members for past years would not be of value for statistical purposes"

[19] Causes of increased attendance "Faculty thoroughly reorganized and prominent teachers from numerous Western schools having been selected Also refusal to admit inferior students—no candidate being accepted unless presenting diploma of college or high school College has no entrance examinations, they are farces!"

[20] "There has been an increase due to the fact that the school has offered unusual clinical advantages which have attracted students in spite of the business depression This increase is so marked as evidenced by the fact that more than one third more actual attendants are present so that the capacity of the college is strained to accommodate the students Matriculation list is twenty five higher than attendance"

[21] 'There was a marked falling off last session The chief cause was I think that no one could graduate on two terms and such sought other schools One of these now finds that his two term diploma will not register him and he proposes to take another course Another cause was that some of them thought they could more certainly graduate in another school The hard times was another cause"

[22] "We had forty three students in attendance last session, this year thirty one—decrease the result of the scarcity of money"

[23] "The present is the ninety-eighth annual course of lectures at this college, and the number of students is the largest in its history Causes A hospital has just been opened in town Possibly the depression in general business may have some influence"

[24] "There is a decrease in the first year, due to the establishment of the four years' course"

[25] Not complete, return made November 1

[26] "The junior class of session of 1891 was the first under the graded system"

[27] "Our collegiate year does not close until June, 1895 and we always have a considerable number entering our reading term in March—these will bring our number for 1894-95 up to 280 or more This is the largest class we have ever had, and is undoubtedly due to the clinical advantages we offer"

[28] "1890-91 was the last year of the two years' system, 1891-92 was the first year of the *obligatory* three years' system The unusually large class of 1890-91 was due to the

two-years' system In 1891-92 three courses of lectures were made obligatory Students were required to pay for each course attended and the fees on lectures were raised from $140 to $150 *Unclassified* includes those who did not attend the full regular course " In the total 409 for 1894-95 are included 60 "unclassified," and in the total 407 for 1893-94 are included 85

[29] "Our four-years' course began with the session of 1893-94 and there are consequently no fourth year students as yet" The total third year students (thirty-four) include eight who are in the third year of the four-years' course

[30] "With the session of 1896-97 we will require a fourth year It is now optional"

[31] The increase seems to affect all schools, more or less, and is probably due to prospective enforcement of the four-years' course next year

[32] ' Increased facilities for instruction over years gone by have increased our class from thirty-eight the past season to fifty for the present "

[33] "The increase is due largely to the reputation of the school among college-trained students and school teachers Our school is conducted on the normal methods of teaching The students are enthusiastic and spread the good news to their friends seeking a medical education "

[34] "Increasing good reputation of the school and perhaps because of lack of opportunities for employment on account of times has driven more persons than usual to professional study "

[35] "The total number in attendance this year (session of 1894-95) may be increased by about thirty when students at present under conditions are permitted to matriculate after their conditions are passed "

[36] "Partly due to the fact that we begin our compulsory four years' course next year Any progressive movement like this increases the popularity of the school as it indicates a determination to take a higher stand among the medical colleges "

[37] "The recent reduction in the number of students was probably due to the lengthening of the course of study to four years and the advance in the standard of entrance requirements adopted by the college "

[38] "The great clinical advantages by reason of its proximity to a large general hospital, viz The Western Pennsylvania Hospital This and the fact that we have adopted the three years' graded course explains the increased attendance "

[39] "Our facilities for teaching are being yearly increased and an increasing number of students are in attendance "

[40] "We now have a four years' course of study "

[41] "The decrease is owing to the stringency in money matters all over the country "

[42] Heretofore conducted as a spring and summer school, not graded "The school has now withdrawn from the Southern Medical College Association and will teach annual terms of ten months, from first of March to latter part of December and permit students to apply for graduation after attendance upon two such annual terms and three years of study "

[43] "We have no required third year, but some students do distribute their study over three years " Two annual sessions of nine continuous months each are required for graduation "The increase of students is due to the establishment of the graded course "

[44] "We have ten State scholarships, given in consideration of the fact that we receive aid annually from the State We have no other scholarship feature as is so often found in other medical institutions or our number of matriculates would have been greatly increased We have no dental or pharmacal department connected with our school It is proper to state that the number of students above for session 1894-95 is incomplete, as we expect a number more to come in soon "

[45] "During the last session the qualifications for degree were increased from four six months' sessions and two compulsory summer sessions of three months each, to four sessions of nine months each The increase in students was unexpectedly large this year which we attribute chiefly to the increased clinical advantages afforded from the opening of the new Royal Victoria Hospital "

[46] "The increase during the present session is probably due 1, to the fact that the enlargement of the building last summer, increasing it to double its former size was well advertised throughout the Province, 2, the work of the college is becoming favorably known, 3, the proportion of the young men entering the profession in this section of the country, as shown by increasing attendance is rapidly (too much so, possibly,) on the increase, 4, it has become generally known that it is the intention of the college to lengthen the term This has had the effect of bringing a few students in earlier than they would otherwise have come "

Replies were finally received from all but the following

Medical College of Georgia
Medical College of Indiana
Fort Wayne College of Medicine
University of Louisville, Medical Department
Louisville Medical College
University of Maryland School of Medicine
Baltimore Medical College
Northwestern Medical College of St Joseph
Beaumont Hospital Medical College
Marion Sims Medical College
Cincinnati College of Medicine and Surgery
Medical Department, University of Nashville and Vanderbilt
Memphis Medical College
Royal College of Physicians and Surgeons
Medical Department, Western University
Women's Medical College of Kingston
Laval University at Quebec, Medical Department

Seven other colleges—two in Ohio, and one each in Illinois, Louisiana, Tennessee, Virginia and Canada—failed to give consent to the use of their names and these are consequently omitted in the preceding table, the figures furnished by them are, however, used in the aggregates—entered as "*Anonymous Schools* "

NOTE —The JOURNAL will be pleased to make additions to the foregoing from colleges that have not heretofore responded and any proper revisions of the statements as published —ED

ASSOCIATION NEWS

The Journal is Now Copyrighted —At the last meeting of the Committee on Management of the Board of Trustees, President Garcelon presiding, a resolution was passed directing the editor hereafter to have the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION copyrighted each week The Trustees directed that all journals should have full and complete permission to reprint any article appearing in the JOURNAL, or part thereof, provided due credit is given to this journal when the article or item is reproduced —JOURNAL AMERICAN MEDICAL ASSOCIATION

[Good work well done]—*Southern Practitioner*

SOCIETY NEWS

Marion County (Ohio) Medical Society —At the annual meeting of the Marion County Medical Society held in Marion, the following officers were elected for the ensuing year Dana O Webb, President, D S Maddox, Vice-President, A M Crane, Secretary, H L Uhler, Treasurer, O W Weeks, W C Denman and F W Thomas, Standing Committee A new constitution and by laws were adopted and signed by the members The report of the committee on the revision of the fee-bill was made the special order of business at the next regular meeting in February, at which time the newly elected President will deliver his inaugural address

Lancaster (Pa) City and County Medical Society —The regular monthly meeting of the Lancaster City and County Medical Society was held January 2 The attendance was large The election of officers, which was the most important business of the meeting, resulted as follows President, T J Wentz, New Providence Vice Presidents J A E Reed and J F Trexler, Recording Secretary, William Blackwood, Corresponding Secretary, Walter Boardman, Treasurer, G R Rohrer, Censors, A M Miller, Bird in Hand, William Compton and M L Davis

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE

PER ANNUM IN ADVANCE	$5 00
SINGLE COPIES	10 CENTS

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

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SATURDAY JANUARY 12 1895

THE BOOK REVIEW BUSINESS

"As good almost kill a man as kill a good book, who kills a man kills a reasonable creature, God's image, but he who destroys a good book kills reason itself"—MILTON'S *Areopagitica*

It is with genuine regret that we invite the attention of the American medical profession to an abuse which has arisen in the matter of reviewing books by some otherwise excellent medical journals For some years we have been watching the review columns of certain of our contemporaries to see if they showed the secret influence of the publisher Facts which have come to our ears in the past year or two prove the suspicion to be more or less well founded that in reviewing or in *not* reviewing the publications of rival houses, the publisher's financial interest is frequently more plainly manifest than the reviewer's scientific interest In other words, the editor reviewer instead of speaking solely from the standpoint of the scientific or literary critic, becomes the mouthpiece of the publisher, and his opinion is accordingly vitiated as a medical guide

The guiding principle of a dignified medical journal is that the reviewer and editor shall tell his readers the truth about a book sent for review, as he himself thinks and believes He does not assume infallibility, but simply gives his opinion But when the publisher of the journal is also the publisher of a competing book, and by some invisible method makes the editor speak according to the dictates of mercantile rivalry, we then have the abuse of which we complain

Far worse, however, than misrepresentation of a book and manifest hypocrisy, is to ignore it altogether Not to review the competing book of a rival firm is worse than to review it through the counting-house spectacles It is worse because it is mean, and because it is not likely to escape attention except by the rival publisher or author Such a height has this editorial subserviency and publisher's dictation attained, that publishing houses often do not send certain new books to certain journals, because they fear that they can not get a fair review, or because they can get no review whatsoever

The moral of the whole matter is the discreditableness of editorial subserviency, and the wrongfulness of the publisher in using for commercial purposes the columns of a journal supposed to be devoted solely to medical and scientific matters There are, to be sure, all grades or degrees of this subserviency from that of the man who copies the eulogistic printed notices sent in advance by the publishers of the vilest trash, up to that of the "Olympian" editor smothered in respectability, and who, obedient to the wink of the publication office, damns with very faint praise or entirely ignores a great book, the merest mention of which might lessen the sales of a rival volume And still another and important moral should not be omitted—the duty of the medical profession to own and govern the conduct of its journals It is only in journals of the profession, for the profession and by the profession, that physicians will always be certain to find "the truth, the whole truth and nothing but the truth" In its review department, for instance, the readers of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION may rest assured that no secret influence governs the criticisms given of current literature We have no interest in misrepresentation, in exaggerated fault finding, or in exaggerated praise, and more than all we have no interest in silently ignoring good books sent us for review The progress of medical science depends largely on the dissemination of the best books, and the recommendation or criticism of books by medical journals should be carried on conscientiously and in the interest of medicine and not of the publication office In fact it was for this reason, as much as for any other, that the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION was founded

THE MAYBRICK CASE

This celebrated case continues to attract attention in this country and in England There is a well founded belief that MRS MAYBRICK is innocent, but thus far public sentiment has not been strong enough to move the Home Secretary to grant a pardon to this most unfortunate woman

Perhaps there has never been a more flagrant example of jury incompetency than was shown in this trial Of late there has been an increasing distrust in juries, and we would by no means join in a sweeping condemnation of jury trials, but believe that surrounded by proper safeguards it has an abiding place in our jurisprudence It is, however, in cases of involved circumstantial evidence such as the Maybrick case, that the ordinary jury fails The average jury is able to judge of the credibility of witnesses and the general trend of testimony, but when it comes to weighing a complicated set of circumstances, the highly trained and educated mind can alone deal successfully with them The jury which tried Mrs Maybrick, if we are to believe the statements concerning it, was rather below average intelligence The judge who presided and is supposed to guide the jury in just such difficult cases was shown to have been suffering from paretic dementia at the time of the trial He made a most intemperate charge which bore strongly against the prisoner and belittled every circumstance that pointed towards her innocence

The chief points relied on by the Crown in this case were that Mrs Maybrick purchased arsenical fly paper, and shortly after her husband was taken with a severe gastro-intestinal inflammation Arsenic was found in a medicine bottle and in some luncheon put up by her for her husband Supplies of arsenic were found in places about the house to which the prisoner had access The accused had been unfaithful to her husband who had beaten her and she had written to her lover stating that Mr Maybrick was dangerously ill Arsenic was found in a bottle of glycerin which she gave the nurse to cleanse Mr Maybrick's mouth There were arsenical stains on her dressing gown Her husband said "Don't give me the wrong medicine again," and "Oh, Bunny, how could you do it? I did not think this of you"

On behalf of the prisoner it was shown that she had used arsenical fly papers in making a face wash The purchase was openly made and she bought other ingredients at the same time Her husband had been ailing for a long time with a severe gastro intestinal disorder He was a confirmed arsenic eater, and used to take it in his food at luncheon The arsenic found about the house could not have been derived from the fly paper, and the purchase of the latter showed that she was not aware that arsenic was in the house, and since the trial this arsenic has been traced to the husband The prisoner summoned the physicians and the nurse The letter to the lover contained other exaggerations than that regarding the illness of her husband and was written for the purpose of inducing him to remain in the country After their quarrel, husband and wife had become reconciled, and the illness began a month later Arsenic in quantity as large as that found in the mouth wash is a common impurity in glycerin The spots on the dressing gown are easily accounted for by the use of the face wash The husband never referred in any way to poison or arsenic, though he knew there was a supply in the house, and felt certain that his wife was unfaithful to him The change for the worse in Mr Maybrick took place the day he forgot to take the luncheon which his wife had prepared, and in no case did it appear that the illness was aggravated soon after anything administered by the accused The amount of arsenic found *post-mortem* was far less than a fatal dose and was consistent with its medicinal administration This opinion was given by the late Charles Meymat Tidy, an authority in legal medicine and one of the best toxicologists in England

It may be that Mrs Maybrick is guilty of the murder of her husband, but if so there is a deplorable lack of evidence of the fact As for the ordinary legal rule, that reasonable doubt shall acquit, it becomes an utter absurdity when applied to such evidence as was adduced in her case

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THE MEDICAL COLLEGES OF THE UNITED STATES

Some weeks ago the Journal sent out a circular to all the Medical Colleges in the United States and Canada, and the returns which are now all in, were handed to Dr Frank W Reilly, well known as an authority on the subject of medical education, for tabulation and summary The results are this week spread before our readers, and will doubtless surprise many whose knowledge on the subject is not based on intimate acquaintance with the schools themselves The advance that has been made in the last decade is not so apparent as to be very gratifying to the friends of higher medical education generally, or to the medical profession The report may well serve as a convenient basis for comparison, in the year 1905, and the Journal of that year, we trust may be able to show a progress equally marked

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SELECTIONS.

A Department of Public Health—The country is to be congratulated upon the fact that the President's message to Congress recommends a Public Health Department Through the whole message, there is no more important subject considered than this one Indeed, for the benefit of the people at large it outweighs in importance all other subjects considered in his message The people may differ as to free iron and coal, and as to the repeal of the differential duty on sugar, it may be doubted, too, whether the Army should be increased in numbers or not, and some might doubt the propriety of extending the coast defenses, but if the health of the nation is to be preserved, no one can doubt that a Department of Public Health should be established The following is the pointed way in which the President states his opinion on this matter

"I am entirely convinced that we ought not to be longer without a National Board of Health or National Health Officer charged with no other duties than such as pertain to the protection of our country from the invasion of pestilence and disease This would involve the establishment, by such board or officer, of proper quarantine precautions or the necessary aid and counsel to local authorities on the subject, prompt advice and assistance to local boards of health or health officers in the suppression of contagious diseases, and, in cases where there are no such local boards or officers, the immediate direction by the National Board or Officer, of measures of suppression constant and authentic information concerning the health of foreign countries and all parts of our own country as related to contagious diseases, and consideration of regulations to be enforced in foreign ports to prevent the introduction of contagion into our cities and the measures which should be adopted to secure their enforcement

"There seems to be at this time a decided inclination to discuss measures of protection against contagious diseases in international conference, with a view of adopting means of mutual assistance The creation of such a National Health establishment would greatly aid our standing in such conferences and improve our opportunities to avail ourselves of their benefits I earnestly recommend the inauguration of a National Board of Health or similar National instrumentality, believing the same to be a needed precaution against contagious disease and in the interest of the safety and health of our people"

The farming element of the country was clamorous for a long time that a Department of Agriculture should be established and it was only within the last few years that recognition was accorded it That it was a wise move the whole country now agrees How much more important is it that a Public Health Department be established When one reads in the daily press of the existence of great epidemics prevailing across the water, the danger is made very apparent and we call for assistance and protection from every hand In times past such scourges as cholera and yellow fever were left alone to devastate our country with no recognized power to stop their onward progress With a Department of Public Health established, and a Secretary of the same in the Cabinet, the country would feel safe in that a power existed that would enable us to grapple with such terrible monsters It is well enough to look after the finances, and have an able Secretary of the Treasury, it is important that the Army should be looked after by the Secretary of War, that the Navy should be made a pride to the country, and its head should be as it is, represented by a great mind Each and all of these departments that have at their head honored and distinguished men deserve to be controlled with the greatest accuracy and precision To this proposition no one would dissent and yet, strange to say, the Congress of the United States in the past has hesitated to establish a Department of Public Health To keep abreast of the times and to be equal to other nations, the time has now come when such action is imperative We find other nations are continually appointing commissions for the investigations of contagious diseases Their people must and shall be protected from all such Money is expended freely and lavishly for the investigation of scientific medical problems and the result is that thousands upon thousands of lives are saved annually We do not want to fall behind others in this line of duty, but in every international conference of this kind the United States should be represented and backed by the strong hand of the Government In the name, then, of science, of mercy, and of justice to the people at large let a Public Health Department be established *The medical profession* of America will unite as one man in thanking the President for his recommendation in this matter Let every medical journal *in the land publish and indorse his views* Quoting the able editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, we would say "*Let there be created a Department of Public Health*"—*Mathews' Medical Quarterly*

Must be Recognized—Medicine must be recognized in the Presidential Cabinet and also in the official family of every governor and mayor of large municipalities—*Cincinnati Lancet Clinic*

CORRESPONDENCE

Medical Education and the Colleges

BOSTON, MASS, Jan 2, 1895

To the Editor—The numerous addresses, editorials and letters which have appeared recently, not only in your own valued JOURNAL, but in many others, show how much the medical profession is thinking and talking about its own condition and how anxious it is to set its own house in order They have inspired me also, who have had something to do with the manufacture of doctors in more than one State, and who have had many opportunities to inspect the finished product, to make a few remarks on the same subject

It is said that the medical profession in the United States is overcrowded It can not be denied The sick among 450 people do not need a whole doctor, and unless they include a liberal proportion of the 400 or their imitators, or unless very vigorously cultivated do not support one Hence the multiplication of specialties But is it the only profession which is crowded? Ask any young man just out of college what he intends to study next, and see if he thinks there is any walk of life which he can enter without pushing It is simply bearing a part in the general tendency of the times

There are, however, certain causes for a special overcrowding of this profession, for a part of which it is itself to blame and another part which has its roots far deeper in the weaknesses of human nature A young man generally chooses his *profession more or less consciously, from one of* three motives, or perhaps two of them combined 1, the attractiveness of its study or practice to his intellectual and moral tastes, 2, the probability of its giving him a comfortable subsistence, or, 3, the possibility of its making him very rich or very famous The first of these motives brings the best and a very large class of material to the medical profession The men who choose the study of medicine for their love of science and who practice it because it brings them nearer to science and to *humanity are the solid* standbys of the profession, the steady line of brave and disciplined men without whom it would become an incoherent mob of self seeking vainglorious, boasting, turbulent quacks Happily they are in the majority Unfortunately it is not rare to meet those who have persuaded themselves that they have an overmastering love for science or for medicine merely because they have so intense a dislike for the other alternatives, which are apt to be some of the humbler walks of life in which they might, if they would, walk, less conspicuously indeed, but with much greater benefit to the community I remember the surgeon in a military hospital showing me a case where the first surgeon had sewed up a scalp wound very neatly over a fracture of the cranium, with the remark that he had "spoiled a good tailor to make a poor surgeon"

This brings me to the second class, who choose medicine simply as a means to a comfortable livelihood and perhaps to an improvement in social position Here, too, a normal and proper desire if backed by good sense and industry, send into the profession many, not usually its brightest ornaments, but excellent practitioners and highly useful men in the community

The third class attack the profession and the public at its weakest point The gambling instinct, the desire to "go a fishing," to "take a flyer," to get something for little or nothing, or to play heavy stakes for great prizes is an exceedingly common if not universal one

In many professions the candidate knows that if he is to have any chance of winning great prizes he must put in great stakes in talents and in industry If he realizes that he has not the former he does not try to come into that game

But in medicine he can not help seeing that, in this country at least, the most money does not go to the profoundest pathologist, the most acute diagnostician, or even the really best practitioner He has constantly before him the example of men who have won fortune with a very moderate proportion of professional attainment, but an excellent capacity for displaying all that they know and a very great deal of shrewdness in concealing what they do not know It is not strange, then, that a youth with a certain quality of brain and a certain appearance of brainpan should conclude that the medical profession is the best market to which he can carry it

Add to these three classes the few who drift into medicine as they might have drifted into anything else, and whose chances of success may be as good there as anywhere, and we certainly have an overcrowded profession The medical schools until recently encouraged them all Some do so still Overcrowding means treading on each other's toes, scrambling, pushing, more or less decorous, certainly not tending to the dignity of the profession, going far beyond the bounds of generous rivalry and approaching dangerously near the manners and morals of advertising trades

For remedies we have to place before the entrances to the profession, sieves coarse and fine, at least an entrance examination for admission to the schools and a State examination or a rigid inspection by the government of degrees and methods, the one of which, by its actual presence, and the other by the fear of its approach, would keep out the least competent The first I would demand not only because certain subjects, like chemistry, physics, and elementary biology ought to be preliminaries to a medical education but because the student ought to know how to study He cannot afford to spend his precious first year, which ought to be given to profitable work in dissecting room and laboratory, in learning how to make use of his opportunities

The State examination should not deprive any American citizen of his inalienable right to be humbugged If he wants it he should have it, but under its own name But since the rights of the man of common sense and those of the community in general deserve to be protected as much as those of the seeker after miracles, the State has a right to say that those who publicly profess to be physicians in the ordinary sense of the word should have some preparation therefor The process of waiting for the survival of the fittest is too tedious and too disastrous

Between these two comes medical education, which is rapidly getting into a very healthy shape The general recognition of the paramount importance of laboratory instruction in all branches of physical science, in other words making the student work himself instead of merely watching the results attained by the professor's experienced hand, is one of the important changes which is going on more rapidly now than ever before In medicine this means clinical work, and especially clinical work in small classes The small hospitals so rapidly springing up all over the country are a most important means to this end, and both they and the older and larger ones should be made to give such instruction to the largest possible number of students The number of internes and externes should be increased to the widest limits consistent with the proper working of the institution Much good material now goes to waste for want of orderly record and careful sifting which might be done by the aid of students to their own great advantage as well as to that of science

No one can look over a series of French and German inauguration theses or the voluntary papers of many of our own young men, without recognizing how immense is the value in mental training of taking up some special subject under the guidance of an instructor and following it carefully and thoroughly Every hospital in this country, large and small, should be a center of education for the profession and for the laity

Medical education is advancing in the right direction, and that rapidly, but the end is not yet It is only four or five years since a friend told me that he had met (I think in a so-called "consultation") a recent graduate who confessed that he had never felt a patient's pulse A medical school without abundant laboratory facilities I would, if it were in my power, remorselessly stamp out One without adequate clinical opportunities not only offered but with their careful use rigidly enforced I would treat with as little respect, unless it were willing to recognize distinctly and formally its position merely as a feeder

But until sentiment changes, the pressure upon our sieves will be strong and some bad material will get through For this change we and our children and children's children, will have to wait When the community can be made to see that a humble place well filled is more honorable than a conspicuous one badly filled, that no profession carries with it respect and dignity except to him who has worthily won it, then and not before will medicine like the other professions cease to be overcrowded I am very truly yours

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Civil Service in State Institutions

CHICAGO, ILL, Jan 8, 1895

To the Editor —The readers of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION will no doubt be interested to learn that an attempt will be made to introduce into our State institutions a system of civil service reform in the formation of the medical staff The affixed circular letter was recently sent to the trustees of the four insane asylums The matter will be thoroughly discussed at an approaching meeting of the superintendents of the insane hospitals and the President of the State Board of Charities The competitive examination will be impartial and no doubt patterned after that at the Cook County Hospital

Yours truly, BOERNE BETTMAN

STATE OF ILLINOIS, THE BOARD OF STATE
COMMISSIONERS OF PUBLIC CHARITIES
SPRINGFIELD, ILL, Dec 20, 1894

TO THE TRUSTEES OF THE ILLINOIS HOSPITALS FOR THE INSANE

Gentlemen —It is generally acknowledged by those who have had an opportunity to become familiar with the routine of our hospitals for the insane that the medical staff in all of them is numerically insufficient In large institutions at least one medical attendant should be allotted to every 200 insane patients In most of our hospitals a far greater number of insane are cared for by one physician

The desire to better care for the insane and to stimulate scientific research induces us to recommend a system in use in most of the general hospitals of the world, viz The employment of internes We suggest the appointment of one interne for every 400 patients cared for in each of the four insane asylums of the State The appointments should be given to those who have obtained the highest mark in a competitive examination The time of service of these internes is to be one year and a salary of $20 per month besides board and lodging

All senior students of medical colleges in good repute with the State Board of Health, and those general practitioners of this State who have not practiced more than five years, are eligible to the examination Vacancies in the staff of the regular assistant physicians should be filled from the ranks of these internes We suggest that all further rules and regulations governing the appointment and employment of these internes be definitely settled at a meeting of the superintendents of the four State Hospitals and the chairman of this Board, to be hereafter called

We also desire to impress upon the administrative officers of the various hospitals, that a well qualified pathologist is needed at each institution The pathologist will be expected to organize staff meetings and to deliver regular courses of lectures on mental diseases and their allied branches To

this end a laboratory should be equipped at each hospital
By order of the Board

Bofrnr Brttman, M D, President
Gro F Minfr, Secretary

Approved by the Governor

Jefferson Medical College

To the Editor —Many members of the Class of 1879 Jefferson Medical College, of Philadelphia, are desirous of having a class reunion on the occasion of the fifteenth anniversary of their graduation Owing to changes, comparatively few addresses are known and therefore this means is resorted to, with the hope that every member of the Class of 1879 who reads this notice will communicate at once with their Class President, Dr Philip K Koons, Mechanicsburg, Cumberland County, Pa

NECROLOGY

Dr A B Cook —Dr Archibald B Cook, of Louisville, Ky, died on the 2d inst His death was caused by pleuro pneumonia, but he has been in ill health for some time, not giving up until the very last, *in fact making his* rounds one day with a temperature of 105 degrees Dr Cook was born in Nobletown, Pa sixty six years ago His father, John Cook was a native of County Derry, Ireland He received a liberal education in Wheeling W Va, and at Jefferson College in Allegheny County, Pa, and was a prominent member of the Franklin Literary Society of that College In 1845 he received the degree of A B, and in 1851 the degree of A M was conferred upon him He studied medicine and graduated from the Medical College at Sharpsburg, Pa, from the College of Physicians and Surgeons, New York, and from the Kentucky School of Medicine in this city, and began the practice of medicine in this city in 1855 He was a member of the American Medical Association, Kentucky State Medical Society, and was a vice President of the College of Physicians and Surgeons, this city, now defunct For years he was Professor of Surgery in the Kentucky School of Medicine, and for twenty years a surgeon of the Marine Hospital He was a member of the local Board of Health and of the Board of Commissioners of Public Charities On Feb 12, 1872, Dr Cook married Mrs Fannie M Roberts who died on Nov 29, 1886 Six years ago he was again married, and his wife and one child survive him In 1860 Dr Cook was appointed on Gen S B Buckner's staff with the rank of major

Dr F L Harrod —This bright and talented young physician was, so far as we can learn, shot down in cold blood at his home in Harrodsburg, Ky, and mortally wounded by Sheriff John T Vanarsdell January 4 The shooting took place in front of Dr Harrod's office Vanarsdell approached and without any other words than an oath, fired at the Doctor, the bullet taking effect in his chest, and after he had fallen was shot again in the stomach The wounded man expired *without regaining consciousness Dr Harrod* was 33 years of age and was a lineal descendant of the pioneer John Harrod, the founder of the town which bears his name He was graduated from the Louisville Medical College in 1891, and began the practice of medicine in Harrodsburg He was local pension examiner, and local observer of the Kentucky State Weather Service The remains *were buried in Lexington, Ky*, with military honors, as the deceased was assistant surgeon to the Second Regiment, K S G

Dr Adam Harthill —Dr Adam Harthill, one of the leading veterinary surgeons of Louisville, died at his residence on the 30th ult, aged 30 years He was born in England but *came to this country when young and settled in Louisville* soon after

James F Rhoads, M D, of Philadelphia, January 2 —— Wm A Elder, M D, of Bloomington, Ill, January 3, aged 69 ——William Osgood, M D of North Yarmouth, Me, December 25 aged 69 ——Homer Campbell, M D, of Racine ——John S Robertson M D of Whiteville, Tenn, December 26 aged 75 ——A S Huston, M D of Anderson, Ind, December 28 ——G W Jones, M D, formerly of Covington, Ind, at the Bermuda Islands, January 7, aged 50

PUBLIC HEALTH

Diphtheria Antitoxin —Surgeon General Sternberg, U S A, has detailed Assistant Surgeon Charles B Ewing to establish a diphtheria antitoxin plant" at Jefferson Barracks, Mo, and Dr Ewing has already procured a number of horses which after being subjected to the mallein and tuberculin tests and otherwise proved healthy, will be utilized for this purpose

New York's Lowest Death Rate —Calculated on an estimated population of 1,957,452 the death rate of New York city for 1894 was 21 05 per thousand—the lowest in the history of the city There were 41,212 deaths during the year, of which 4,752 were from pneumonia, 4,687 from phthisis, 2,492 from Bright's disease, 2,371 from diphtheria, 2,177 from heart disease, 541 from scarlet fever and 156 from smallpox Following are the death rates for the preceding six years

1888	25 23	1891	24 73
1889	24 07	1892	24 26
1890	23 51	1893	23 52

Epidemic Diseases —Influenza or "grip," which seems to have been lurking in the country since its epidemic prevalence in 1891-92, is assuming formidable proportions in New York and Brooklyn In the former city 7 deaths were reported from the disease last week, with 3,000 cases under treatment In Brooklyn, Dr R M Wyckoff Deputy Health Commissioner and Dr Ezra M Wilson, bacteriologist of the Board of Health, were reported suffering from severe attacks The Board is having more than its share of sickness, Dr L C Ager, sanitary inspector, and Dr Jerome B Thomas, assistant bacteriologist, also being disabled, the former with typhoid fever and the latter with diphtheria contracted in the laboratory

Dr Wingate, Secretary Wisconsin State Board of Health, reports, January 7, smallpox at Chippewa Falls, Manitowoc Rapids Tp, Mishicott and Milwaukee—sixty eight cases in the latter city, twenty seven in hospital and forty one in homes From another correspondent it is learned that the outbreak at Manitowoc Rapids is due to infected goods stolen *from the smallpox hospital occupied at that place* in the summer of 1894 Dr Probst, Secretary of the Ohio State Board of Health, reports January 4, smallpox at Mansfield, Toledo and Millersport Dr Scott, Secretary Illinois State Board of Health, reports, January 7, an outbreak of smallpox at Kirkland, DeKalb County, which it is feared may be serious owing to the fact that the first case was treated as measles and an unknown number of persons exposed The Detroit City Board of Health discovered January 4, that a carpenter, *who had been employed on the new smallpox* hospital, had contracted the disease and had been under treatment for ten days by a "Christian scientist," the scientist has been arrested and will be prosecuted On the 9th inst, there were eighty six cases in the Chicago smallpox hospital, none in homes so far as known to the Health Department

A cable dispatch of the 9th inst, confirms the reports of Dr Cleary, Sanitary Inspector U S M H S, at Rio de Janeiro, as to the existence of Asiatic cholera in the Argentine Confederacy The dispatch announces that it has been proclaimed epidemic in the provinces of Rosario and Santa Fe Dr Cleary had previously reported its extension along the line of the Sao Paulo Railway to a number of towns and railway stations in the Brazilian States of Sao Paulo and Rio de Janeiro, in consequence of which railway travel had been suspended and communication between the infected district and the port of Rio cut off The comma bacillus of Koch had been discovered in most of the cases and the pre-tion, disinfection and quarantine measures are rigidly enforced and it is hoped to prevent the infection of the port, although one case had appeared which Dr Cleary believes to have been cholera

MISCELLANY

Medical Examiners in Georgia—We are informed that Georgia now has three Medical Examining Boards, one Regular, one "Homeopathic" and one "Eclectic"

Personal—John L White, M D of Bloomington, Ill, who was recently elected a member of the Legislature has resigned his position as a surgeon of the Chicago and Alton Railroad He is an old and valued member of the AMERICAN MEDICAL ASSOCIATION

Medical College of Indiana—The Faculty of the Medical College of Indiana held a meeting December 14 It was decided to erect a new building at a cost of not less than $50,000

New Health Officer—Governor Levi P Morton, of New York, has recognized the general voice of the New York profession, by appointing Dr Doty, of the City Board of Health, to be Health Officer of that port, *vice* Wm T Jenkins, M D No one could read the report of the New York Academy of Medicine on the conduct of quarantine in 1892, without realizing that the quarantine has, to say the least, been in very unsafe hands during the Jenkins *regime*

Cancer of the Breast, Operation Without Suture—M Berrut reported a case of a woman in whom he made, twenty years ago, ablation of cancer of the breast The wound was left open and healed by granulation The cure was definite and has been maintained, until now when it was seen twenty years after the operation—*Revue de Chirurgie*, November, 1894

Army Medical School—There are only two Assistant Surgeons in attendance at the current session of the Army Medical School as against seven in 1893-94 The Secretary of the Faculty, Walter Reed, Major and Surgeon, U S A writes "Decreased attendance at the session of 1894-95 is due to reduction of number of Assistant Surgeons, U S A, by recent act of Congress otherwise our class would have numbered twelve Our session only extends from November 1 to March 1 (four months) and is intended to give to recently appointed Assistant Surgeons careful instruction in bacteriology (especially the study of pathogenic organisms) in pathology of tumors blood, urine, etc, and work in the chemic laboratory, embracing examinations of water air, urine, adulteration of foods, etc"

The Index Medicus—The following circular has been issued

CHICAGO, Jan 1, 1895

Dear Doctor—Since 1885 the Index Medicus has been carried on at a loss to the publisher, and without compensation to the editor, and within the last year the subscription list has so far diminished that the journal will cease to appear unless very substantial support is given by the profession

The undersigned, committees of the Chicago Medical Society and Chicago Academy of Medicine, deplore the loss to American medicine that will accrue from the discontinuance of this valuable publication It is the most complete bibliography of medicine that has ever been published, and the only one in the English language The physicians of Chicago ought to feel a strong interest in maintaining this publication, as it is the only index to the vast accumulations that are added yearly to the Newberry Library Will you not lend your support to the Index by sending a subscription to Dr H N Moyer 910, 103 State Street, or to the publisher, Geo S Davis, Detroit, Mich?

Very truly yours,
NICHOLAS SENN, M D JAS G KIERNAN, M D
J C HOAG, M D H N MOYER, M D
W H WILDER, M D

Thoracotomy in Sarcoma of the Breast—M Vautrin, Nancy, at the Congrès Francais de Chirurgie, (*Revue d Chirurgie*, November, 1894) said that the indication for tho acotomy presented itself more often than is commonl thought, in cases of malignant tumors of the chest wal These tumors give a grave prognosis and but little hope survival, and in their evolution they arrive rapidly at i vasion of the lung This invasion is a contra-indication t operation, and it is a delicate point of diagnosis to dete mine this point with precision Superficial tumors of th female breast, rarely invade the deeper structures but sa coma constitutes an occasional exception The deep tumo are generally recurrences of carcinomata The contest generally abandoned at this stage, although thorough i tervention may give results M Vautrin has twice pra ticed thoracotomy under the following conditions

1 A young woman of 19 years was attacked with a lar sarcoma of the breast In the course of the operation f removal it was seen that the ribs were invaded, and the were removed, it was then found that the pleura was al affected, and it was also resected The air entered t thoracic cavity and caused syncope After five minutes t pulse returned and he was able to complete the operatio This patient was cured and remained well

2 This case was a recurring carcinoma of the breast, ha ing invaded three ribs and seven centimeters of the pleur These were excised, the sequelæ were simple and the wou was healing by granulation—*Revue de Chirurgie*, Novembe 1894

Statue of Charcot—The pupils and former associates Charcot in Paris and throughout France are engaged raising a fund for the erection of a bronze statue of him the Salpêtrière This movement is now receiving cordi and material support in Germany, in England and in Ital It has therefore seemed desirable to the neurologic soci ties of New York and Philadelphia that the profession America join in this testimonial as an evidence of the em nent services of Charcot in neurology and medicine F this purpose the undersigned have been appointed a com mittee to bring the matter to the attention of the professi and to receive contributions, which will be duly acknow edged and forwarded to the Central Committee in Par It is requested that all who desire to contribute to the su cess of this undertaking send their subscriptions to t members of the committee nearest them or direct to t treasurer, Dr C A Herter, 819 Madison Avenue, New Yor before the first day of February, 1895

For New York—E D Fischer, E C Seguin, M A Sta C L Dana, C A Herter
For Philadelphia—S Weir Mitchell, Wharton Sinkle Chas K Mills
For Boston—J J Putnam P C Knapp
For Baltimore—William Osler
For Chicago—Archibald Church
For St Louis—C H Hughes, F R Fry, L Bremer
For Montreal, Canada—James Stewart
For Rochester—E B Angell
For Buffalo—J W Putnam
For Pittsburg—Theodore Diller
For Denver—Howell T Pershing
For San Francisco—J D Hirschfelder

December 22, 1894

Abandonment of Fort McKinney, Wyoming—This military po was situated on Clear Creek, a branch of Powder Rive about fifteen miles east of the main range of the Big Ho Mountains, two miles west of the settlement of Buffalo a thirty three miles south of Clearmont, the nearest station the Burlington and Missouri River Railroad Its site was table land elevated about forty feet above the level of t stream and composed of smooth boulders and gravel ove laid by clay The climate was regarded as pleasant, mo of the winter weather being clear and bright, and althoug the temperature sometimes dropped four below zero the cold spells were of short duration The average annu rainfall about ten inches, occurred mostly in the spring months during which the weather was damp, chilly, extremely changeable and productive of tonsillitis and catarrh of the respiratory organs The supply of water was unlimited and of excellent quality derived from Clear Creek, an unpolluted stream from the Big Horn Mountains It was pumped by steam into a distributing tank The creek furnished also water for irrigation, and post gardens were successfully cultivated Waste water was carried off by pipes and delivered into neighboring ravines Vaults were used for excreta as there was no sewerage system, nor was it considered possible to have water carriage disposal as the town of Buffalo was two miles below on the same watercourse At the time the post was broken up, efforts were being made to introduce the dry earth system The barrack buildings were large one story log structures, ceiled and floored and with wide veranda in front They gave about seven hundred cubic feet of air space to each man of the *authorized* occupancy and were well ventilated through eight inch inflow pipes opening into jacketed stoves with outflows in the ceiling under louvres in the ridge of the roof The hospital was of similar construction, its ward giving about eleven hundred cubic feet of air space to each of ten beds The officers quarters, disposed in the arc of a circle on one side of the parade ground, consisted of fourteen one story and attic buildings with yards inclosed by a picket fence These houses were warmed with difficulty in winter on account of cracks about the casings The post bath house, built of pressed brick, contained a large plunge bath with eight attached dressing rooms and eight single bathrooms each furnished with hot and cold water taps, but the boiler was unequal to the task of of providing hot water for all the baths at one time and the use of the plunge bath was in consequence confined to warm weather There was no gymnasium, but in summer the men found plenty of exercise in drills, fatigue duty hunting fishing baseball, etc In winter, however, facilities for systematic exercise were lacking On the abandonment of the post the reservation was turned over to the Department of the Interior

Liability of Railroads for Improper Medical or Surgical Treatment—Can a railroad company be held liable for the mistakes of physicians whom it may call to care for its passengers? And in the treatment of an injured employe, should the managers of the railroad comply with the directions of the surgeons who are called to attend him, or should they assume superior knowledge with reference to his proper treatment, and act in accordance with their own judgment? These and several other interesting questions are asked and answered by the Supreme Court of Kansas in the case of the Atchison, Topeka, & Santa Fe Railroad *Company* v Zeiler, decided Nov 10 1894 It appears that a brakeman had his leg crushed at Woodward in the Indian Territory By direction of a surgeon, he was transported into Kansas After his death, this action was brought against the railroad company to recover for improper treatment received by him, no claim being made on account of the original injury The jury, in answer to a special question, found that he died from the injury received in the Indian Territory, and consequent loss of blood All that was done by the railroad company and its employes was under and in accordance with the direction and advice of competent surgeons, in whose selection there was no claim of want of care

In a former case (Railroad Co v Weber, 33 Kan 543) this court held that it was the duty of a railroad company to exercise reasonable and ordinary care in temporarily providing for the protection and comfort of a sick, unconscious, and unattended passenger It says that it may be conceded that it was the duty of the railroad company to so provide in this instance The substantial question became, therefore as to the measure of that duty and the extent of the railroad company's liability for any improper treatment, the deceased might have received The court then goes on to say that a railroad company, in the transportation of persons and property is held to the use of skill as well as care and diligence is well settled Railroad companies are chartered for the purpose of transporting persons and property by the use of the power of steam In fulfilling their duties to the public they are required to be skilled in the business in which they are engaged Each officer and employe must be selected with reference to his qualifications and fitness for the discharge of the particular duty imposed on him But the care of persons suffering from wounds bruises, or illness, is a matter altogether distinct from the transportation of persons and property *To provide for the needs of such*, we have the learned profession of physicians and surgeons The law requires that those who assume to practice medicine and surgery shall possess certain qualifications of skill —shall have received education and training, fitting them *for their calling* For *these reasons if there was in this in*stance, excessive bleeding which might have been preventd during the hour's ride from one station to another it was clearly not the fault of the train hands, for they could not be held to the exercise of any degree of medical or surgical skill *And how could it be said to be the fault of the train master*, or of any superior officer of the company? They had called competent physicians and were taking the injured man to the hospital in accordance with their advice When the transfer from a freight to a passenger train was made, under *the advice, and by the direction of a physician*, the court holds that it was the latter's duty to have examined the wound and the condition of the patient to have determined whether he was in a condition to endure the journey or whether it would be better to remove him from the cars and *amputate the limb at once* If it were *determined that the* journey should be made, it was his duty to see that the wound was properly dressed, that the patient was provided with those things that were necessary for his safety and comfort The employes of the company whose primary duty was to *operate the train could not be expected to* exercise surgical skill, or to do more than carry out any directions the surgeons might give for his safety and comfort Coming back to the principal question, the law is well settled, the court says, that a railroad company having used reasonable care *in his selection, is not chargeable with the want of skill in a* physician or surgeon whom it calls for a passenger or injured employe, and this is so even where the law requires a steamship company transporting immigrant passengers to carry a physician Consequently, a railroad company which *procures competent surgeons to attend* a brakeman injured in its employ and proceeds to transport him to a hospital, in pursuance of the advice and direction of such surgeons, and complies with all their directions as to his safety and care, is not liable for any mistake, error in judgment, or want of foresight *in such surgeons* And on these grounds a judgment rendered in the court below against the railroad company is reversed, the railroad being held not liable, under the circumstances stated for the death of the injured man

Hospital Notes

THE NEW HOSPITAL FOR COOPER COLLEGE, SAN FRANCISCO—During the meeting of the AMERICAN MEDICAL ASSOCIATION at San Francisco the members were given at Cooper Medical College an entertainment, during which they were shown the new hospital which was being erected in connection with the college This hospital is now completed and its opening was formally inaugurated on Jan 2, 1895, by an address by the donor, Dr Levi Cooper Lane, and a surgical operation performed by him in the presence of the students of the college, the Faculty and other physicians The institution will bear the name of the donor, and has been erected by him at a *cost of $160,000 The building is of brick with granite facing*, it has a frontage of 140 feet on Clay Street, and a depth of 130 feet on Webster Street, and has accommodations for over one hundred patients In the arrangements for ventilation, heating lighting and quantity of air for each bed, the build*ing corresponds to the best models of modern times* The equipments of Lane Hospital are such that the unfortunate sick who seek this retreat will find it a home provided with every comfort and all the means which can relieve their sufferings and restore them to health The medical and surgical service will, in the main, be rendered by the Faculty of Cooper College, yet other physicians will be allowed to place their patients here, treat them and collect such fees as may be agreed upon between the parties

Three men of generous heart have made liberal contributions for the future support of the hospital, viz Capt James M McDonald, $58,000, Col Claus Spreckels, $25,000, and Mr A B McCreery has given $6,000 for the perpetual maintenance of a bed It may be interesting to the friends of the donor of Lane Hospital and Cooper Medical College to state, that the aggregate of his gifts to those institutions in money and lands amounts to nearly half a million of dollars, and that in respect to Cooper Medical College, during the eleven years which have elapsed since its erection, its successful career has surpassed his most sanguine anticipations, the class of students having grown from 40 matriculates in 1882 to 220 in 1894 The newly added hospital insures the permanency of, and must add to, the prosperity of the medical institution, and the donor is justified in the belief that the wish which accompanied this last gift, and in marble letters is written at the entrance of the building, will have ample realization, that the healing art will here have the opportunity of exercising its humane skill, and suffering humanity will here find sympathy and relief from its afflictions

Louisville Notes

CITY AMBULANCE—The ambulance recently ordered by the Board of Public Safety has been completed, and was placed in service January 8 It is of neat and modern design and thoroughly equipped

DEATH REPORT—From Jan 1 to Dec 31, 1894, there were 3,062 deaths, estimated population 200,000, death rate for the year per 1,000 inhabitants 15 The corresponding rate for the year 1893 was 16 per 1,000 inhabitants For the month of December the report shows there were twenty-two deaths from diphtheria, thirty-four from consumption, sixty-seven from pneumonia, ten from bronchitis

SPRING AND SUMMER MEDICAL COLLEGES—The Kentucky School of Medicine began its session of 1895 in its new building on the 3d inst The first clinical lecture was delivered by Dr W H Wathen, Dean

THE HOSPITAL COLLEGE OF MEDICINE and the Louisville College of Dentistry began their sessions on the 2d, the opening lecture being delivered by Dr J A Larrabee, President of the Faculty, who was followed by Dr P R Taylor, Dean of the Medical Department

G A R—Health Officer White has been appointed Chairman of the Committee on Medical Matters, for the encampment of the G A R in this city September next

VACCINATIONS—Under the new ordinance recently reported in these columns, Health Officer White has vaccinated up to date 2,822 poor children who were unable to pay a physician for his services About an equal number of the school children have lately been vaccinated at the expense of their parents

CORONER'S YEARLY REPORT—Coroner McCullough has just submitted his yearly report Altogether it has been a season of unusual activity for the Coroner, the number of calls being considerably in excess of last year The number of homicides last year was twenty-seven, the number this year thirty-three There were thirty suicides last year; this year thirty-four The statistics for suicides show a larger number of negroes who sought death by their own hand than for a number of years past, the number for this year being five Last year there was but one, and in 1890 there were no negro suicides Some of the causes of death were as follows Drowning, twenty-four, railroad accidents, eighteen, electricity, three, heart disease, thirty-nine, burned, ten, convulsions, twenty four In all, there were 400 calls during the year

THE CORONER—The first of the year presents a complicated case in the position of coroner The returns from the recent political landslide show that Dr J C Hood, the Republican nominee for coroner, was elected by a large majority The election was contested, but the board decided that it could not go behind the face of the returns, and Dr Hood is elected

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Academy of Surgery, Philadelphia—(By telegraph to this JOURNAL)—At the annual election of officers of the Academy of Surgery, December 7, Dr Thomas G Morton was elected President for the ensuing year Dr John B Deaver delivered the annual oration on Surgery

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Dec 29 1894 to Jan 4, 1895

Major WASHINGTON MATTHEWS, Surgeon, leave of absence granted on surgeon's certificate of disability, is extended four months on surgeon's certificate of disability

First Lieut JAMES M KENNEDY Asst Surgeon, is granted leave of absence for one month, on surgeon's certificate of disability, with permission to leave the limits of the Department

Major ROBERT H WHITE, Surgeon, is granted leave of absence for one month, to take effect about Dec 24, 1894

Capt JAMES D GLENNAN, Asst Surgeon, the order assigning him to duty at Ft Snelling, Minn, is revoked

First Lieut HENRY A SHAW, Asst Surgeon, the order assigning him to duty at Ft Niobrara Neb, upon the abandonment of Ft McKinney, Wyo, is so amended as to direct him to report for temporary duty at Camp Merritt Mont, and upon the completion thereof to proceed to Ft Snelling, Minn, for duty at that post

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Jan 5 1895

Medical Director MICHAEL BRADLEY, detached from duty as a member of the Naval Examining and Medical Boards

Medical Director B H KIDDER, ordered as member of the Naval Examining and Medical Boards

Surgeon J B BARKER, ordered to *special* duty in connection with the investigation of the Ford Theater disaster

P A Surgeon LEWIS H STONE, promoted from Asst Surgeon

P A Surgeon F J B CORDEIRO, ordered to study the subject and make a report to the Department of the therapeutic value of antitoxin in the treatment of diphtheria and croup

Marine-Hospital Changes—Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the sixteen days ended Dec 31, 1894

Surgeon GEORGE PURVIANCE, relieved from command of Service at Philadelphia, Pa, and detailed as medical inspector of immigrants at that port, Dec 18, 1894

Surgeon F W MEAD, directed to proceed to New York N Y, for temporary duty, Dec 27 1894 To rejoin station (Washington, D C), Dec 29, 1894

Surgeon H R CARTER, granted leave of absence for twenty four days, in lieu of leave granted Nov 20, 1894, Dec 21, 1894

P A Surgeon C T PECKHAM to inspect unserviceable property at San Francisco M H, Dec 26, 1894

P A Surgeon P C KALLOCH, to report at Bureau for special temporary duty, Dec 29, 1894

P A Surgeon W D BRATTON, placed on waiting orders, to date from Jan 1, 1895, Dec 26, 1894

P A Surgeon G M MAGRUDER, granted leave of absence for ten days, Dec 22, 1894 Leave of absence extended five days, Dec 31, 1894

P A Surgeon T B PERRY, to proceed to New York, N Y, for temporary duty Dec 28, 1894

P A Surgeon J O COBB, granted leave of absence for three days, Dec 28 1894.

P A Surgeon J C PERRY, to proceed to Philadelphia, Pa, and assume temporary command of Service, Dec 18, 1894

Asst Surgeon J A NYDEGGER, granted leave of absence for three days, Dee 18, 1894

Asst Surgeon RUPERT BLUE, to proceed to San Francisco, Cal, for duty, Dec 18 1894 Granted leave of absence for six days, Dec 24, 1894 To proceed to Cincinnati, Ohio, for temporary duty, Dec 28, 1894

Asst Surgeon EMIL PROCHAZKA, granted leave of absence for twenty-five days, Dec 17, 1894

Asst Surgeon H S CUMMING, leave of absence granted Nov 27, 1894, canceled Dec 20, 1894 Granted leave of absence for seven days, Dec 31, 1894

LETTERS RECEIVED

Alderson, Jas, Benton Wis Andrus, A P, Ashland Wis

Bates X T, Poughkeepsie N Y Babcock, R H, Venetian Building, Chicago, Brignac F Jr, Paulina, La

Collins, T S, Globe Ariz, Cullum, R H, St Paul, Minn Cone Andrew, New York, F Y, Church Archibald, *Chicago* Cutter, Ephraim, New York City Cook, A W, Wheatland Iowa

Damrell & Upham, Boston, Mass, de Schweinitz, E A Washington, D C, Duffield, H, T Pittsfield, Ill Davis Geo, S, Detroit, Mich

Ewing F C Asheville N C Edes, R T, Boston, Mass, Eastman, Thos B, Indianapolis, Ind

Faber, P G Chicago Ill Foote, N, Colchester Conn Febrinol & Chemical Mf'g Co Chicago Ferguson, F, New York, N Y

Green Le Roy, Waterford Ont Gifford H Omaha, Neb, Gihon, A L, Washington D C Gardner, F A Washington, D C

Hill Gershom, H Independence, Iowa Hopkins, J G, Thomasville, Ga Howle, W P, Oran Mo Hassinger, A, Charlie, Texas, Högler, E E, Springfield Ill Harlan, A W, Chicago, Hoag, J C, Chicago, Hulbert Geo F St Louis, Mo

Jackson, Edward Denver Colo Jones, Thos R, Milwaukee, Wis

Kercher, John Chicago, Kelly, W H Covington, Ky Kempf, Paul H, Ferdinand Ind Kalb, Geo B, Jeddo, Pa Kenyon News & Postal Subscription Co Chicago

Lydston, J F Chicago, Lippincott, J B, Company Philadelphia Pa

Mann, Edw C New York, F Y Maltine Mnf'g Co, New York, N Y Meyer Chas & Co, New York, N Y Meyrowitz E B, New York, N Y Manley, C S, South Denver, Colo Mattner E H, San Francisco, Cal, McCormac, J T Marshfield, *Oregon McFarland*, W, Waterbury, Conn, Mover, Harold N, Chicago

Narr, Thos S, Indianola, Iowa

O'Brien, J S Milwaukee, Wis O'Neil, J W, Chicago

Reynolds, H T Baltimore Md Rush Medical College, Chicago Ramsey R T, London, Ky, Register & Montgomery, Drs Charlotte, N C Raeder, J W Wilkes Barre, Pa, Rational Chemical Co., St Louis, Mo Remarque, C E, Petaluma, Cal Roy, Dunbar, (2) Atlanta, Ga

Stauffer, W H Arkansas City, Kan, Shirk, J K El Paso, Texas, Scott, Robt J Plattsburg N Y, Sampson, E S North Syracuse, N Y, Subscription News Co Chicago, Ill Surgeon General U S A, Washington, Tuley, Henry E, Louisville Ky Torey, E J, Freeport, Ill, Truax, Greene & Co Chicago

Vaughan, Geo I, Berlin, Germany

Wahrer C F Ft Madison Iowa Wheeler Chemical Co Chicago Wyman Hal C Detroit Mich Woods, J F, Toledo, Ohio Woodbury, Frank, Philadelphia Young, Ira C Palmyra, Ill

The Journal of the
American Medical Association

Vol XXIV CHICAGO, JANUARY 19, 1895 No 3

ORIGINAL ARTICLES

LITHOTOMY AFTER PARTIALLY SUCCESSFUL CLOSURE OF EXSTROPHY OF THE BLADDER—SUBSEQUENT CONSTRUCTION OF A PERINEAL URETHRA FROM SCROTAL TISSUE

Read before the Philadelphia Academy of Surgery Nov 5 1894

BY JOHN B ROBERTS, M.D
PHILADELPHIA, PA,

In March, 1893, a child, aged 8 years, with exstrophy of the bladder, was brought to me at the Polyclinic Hospital for treatment The mother told me that when 3 or 4 years old he had been operated on at the Children's Hospital It was evident that some improvement in the condition had been made by this early operation, because the posterior wall of the bladder did not protrude, as is often the case, but formed a rather shallow cup at the base of the rudimentary penis The flaps had evidently been taken from the surface above the congenital defect and at its two sides, as in Wood's operation, for the cicatrices in these regions were apparent The urine ran from the bladder over the penis and scrotum, and also escaped from linear sinuses along the top and sides of the thickened tissue which closed the upper portion of the cleft in the bladder

As a first step in the operation I endeavored to produce a perineal fistule by thrusting a curved needle from the base of the bladder through the perineum, behind the scrotum, and conducting a drainage through the opening so made The tube was increased in size at various intervals until at the end of two months there was a canal which would contain a rubber urethral bougie of moderate size I then etherized the patient a second time, and made a circular denudation around the edge of the open bladder The rudimentary penis, consisting of the spongy body, the cleft glans and cleft prepuce was entirely removed Cylindrical masses on each side of the opening in the bladder, which appeared to be the representatives of the cavernous bodies, were also dissected away A piece of soft rubber catheter was then introduced through the perineal opening established by the first operation, and its end allowed to reach the floor of the bladder The purpose of this procedure was to secure downward drainage of the urine after the edges of the bladder were brought together Seven deep sutures were next inserted in a manner to bring the denuded edges of the bladder wall into apposition in a vertical direction The wound was then sealed with iodoform and collodion The perineal tube, however, soon became blocked with mucus and pus, which was continually flowing from the irritated mucous membrane of the bladder and was not satisfactory as a drain I finally passed a drainage tube from one of the upper sinuses directly through the bladder and out of the perineal opening, in order to prevent the sutures in the middle line from yielding These middle sutures, however, finally gave way, and when the patient passed from observation there was a large opening in the middle of the attempted closure Some union had, however, been obtained The perineal opening showed a marked tendency to close

I did not see the patient again until October, 1894, sixteen months later At this time the perineal opening had entirely closed and its scar was inconspicuous, but the exstrophy of the bladder was completely covered by the new anterior wall At about the middle of this wall, which had been constructed in the manner described, was a small opening of sufficient size to admit the end of a large probe At the upper and right hand side of the portion of the wall which had been constructed in infancy was a linear sinus about an inch in length This was situated at one of the points which, when I first saw the child, allowed the urine to escape There was a little oozing of urine from the small central fistula, but the major portion escaped from the sinus at the upper right hand border

The mother said that the patient suffered severe pain, which was evident by his crying at the least touch of the skin in the neighborhood of the central sinus The insertion of a probe made it evident that the new bladder contained calculi The child's general condition was poor, and it was evident that he had been suffering greatly The offensive character of the urine and difficulty of keeping him free from its odor caused me to give him small doses of turpentine, which, as is well known, imparts a peculiarly agreeable odor to the urine This device seemed to render the patient less offensive to the others in the ward A few days later I enlarged the opening in the middle of the bladder wall in front and found the cavity filled with calculi They were ten in number and varied from five-sixteenths to five eighths of an inch in diameter Their combined weight when not dried was 195 grains It seemed to me that the establishment of a perineal urethra lined with skin would afford efficient drainage to the new bladder, and would remain patulous I therefore determined to cut a channel between the perineum and the floor of the bladder, and turn in flaps of skin taken from the scrotum As a first step, I incised the scrotum in the middle line and removed both testicles I then made a puncture downward from the base of the bladder to this scrotal incision This permitted me to utilize the scrotal tissue for lining the new channel By two horizontal incisions on each side of the opening, I obtained strips of scrotal skin and superficial fascia half an inch wide and an inch and a half long To the inner end of these, ligatures ploratory incision should be advised It means that it may contain 1, an enormous number of stones, 2, clear mucus, 3, pus or muco-pus and some bile, 4, nothing but bile, and 5, that a new growth is invading it or the ducts, usually cancer Should the tumor be due to stones, mucus or pus, a history of cholelithiasis is almost invariably elicited but not always Dropsy of the gall bladder not infrequently occurs without any history of colic, and it becomes enormously enlarged reaching down to the brim of the pelvis I can recall two such cases

Case 1—A half-breed woman, 60 years of age, presented herself at my clinic at St Boniface Hospital, Manitoba, with a movable tumor in the right abdomen, so closely simulating a floating kidney that I could not to my own satisfaction make a differential diagnosis It could be moved to the region of the kidney, but it could not be felt to slip into its bed as a kidney does, there was no bowel in front of it, and an area of some dullness could be traced to the edge of the liver, three facts which pointed to the enlargement being a gall bladder On Oct 21, 1893, an exploratory incision revealed a dropsy of the gall bladder with one enormous calculus which was removed, and the cholecystotomy completed

Case 2—Mrs H, aged 45, on whom I performed a cholecystotomy, before the post-graduate class, at the Chicago Charity Hospital on August 21, 1894, assisted by Dr Burdick, in which a dropsical gall bladder contained four large stones and one small stone There was a history of chronic constipation and clay colored stools for twenty years, but no other disturbance until a tumor was noticed nine weeks before entering the hospital, when local tenderness and an uneasiness ensued

Empyema of the gall bladder is caused by the irritation of gall stones, plus infection There may be quiescent gall stones, (no symptoms of disturbance) until the person is taken ill with some infectious disease, as typhoid fever, etc, when at some stage of its course or during convalescence, rigors come on suddenly and a tumor appears In November, 1893, I was called to Morden, eighty miles from Winnipeg, to see such a case A woman aged about 37 years was down nine weeks with typhoid and convalescing, when pain in her right hypochondriac region came on, followed by repeated rigors, high temperature 104 2 degrees, etc, and the appearance of a tumor The case was so severe that we dared not venture an anesthetic Her pulse was 130, temperature 102, greatly emaciated, and had not slept for two or three nights *I performed a cholecystotomy with the aid of cocain* It was interesting to notice that the skin and parietal peritoneum were the only two structures that required anesthesia The surface of the gall bladder was insensitive to the needle and knife In this operation I was assisted by Drs McConnell and Boyle We found pus, bile and thirty-two gall stones, some large, others small, washed out the gall bladder, and stitched it to the skin She made an uninterrupted recovery, but there is still a small fistulous track which is troublesome, although not affecting her general health I have advised her to come to me, to Chicago to have it treated It may close itself Should the enlarged bladder contain nothing but bile, the obstruction in the common duct is not infrequently caused by cancer at the head of the pancreas or sometimes by a pancreatic calculus

These are the clinical features of some of the cases which call for opening the abdomen for diseases of the gall bladder and obstruction of the ducts The question now arises which operation to select Cholecystotomy, cholecyst-duodenostomy or cholecystectomy? The necessity of performing either of them must be on pathologic grounds, and the diseased conditions can not to a certainty be known before the abdomen is opened We have not had the results of a sufficient number of these operations to make a comparison From a surgical standpoint, cholecystotomy, in suitable cases, is the most rational, the simplest and safest operation, and if it is capable of rectifying the pathologic conditions it should be the one selected I should choose it

1 When the cystic and ductus communis choledochus are normally patulous The gall bladder may have been enlarged with stones, bile, mucus or pus, which should be cleaned out and the permeability of the ducts tested

2 When the obstruction can be easily removed from the cystic or common duct through the incised gall bladder

3 When there is temporary obstruction of the ducts with inspissated mucus, parasites, liver flukes, worms, etc I met with one case of obstruction of the whole hepatic and the commencement of the common duct with hydatid cysts, which could have been removed by opening the gall bladder and rupturing the little cysts with a probe The man died on the eighth day, of jaundice The history of the case was obscure I did not then (1889) feel justified in making an exploratory incision, which I have since regretted

4 For the temporary relief of distress and jaundice in obstruction of the common duct by a cancer of the pancreas when the patient can stand but little surgical interference without collapsing on the table

The first indication includes the majority of gall stone cases The operation can be done in one or two sittings The condition of the ducts can best be ascertained when the gall bladder is opened in one sitting I think, therefore, that this should be done with but few exceptions

Cholecyst duodenostomy is without doubt Murphy's operation, and it is a valuable addition to the surgery of the gall bladder His ingenious and useful anastomosis button is to my mind the best and safest device that has yet been produced, to establish a new route for the bile into its natural receptacle—the duodenum Up to the present there has been reported but one death and that one from hemorrhage from torn liver, out of thirty six cases operated on for cholelithiasis The button in this situation is constantly bathed with an antiseptic fluid—the bile—and the duodenum is comparatively free from germs, which adds to its safety For the fulfillment of the following indications it is the most ideal operation that has yet been offered to the profession

1 When the cystic and common ducts are permanently obstructed, and the gall stones can not be removed through the opening in the gall bladder

2 When the common duct is obstructed by cicatricial tissue

3 In cases of biliary fistulæ and chronic recurrent cholelithiasis vesicularis

4 In cases of perforation of the choledochus into the abdominal cavity

5 In all cases of cancer of the head of the pancreas obstructing the bile duct, unless too weak to stand it

I have successfully used Murphy's button in the following cases

Case 1—On Aug 3, 1893, at St Boniface Hospital, I operated on Mrs McK, assisted by Drs Hutton, Todd and McArthur The patient was 58 years of age There was constant tenderness over the gall bladder, so that the patient could not even bear the clothing, history of biliary colic for four years Had several attacks in one day No jaundice The gall bladder was opened, and I removed one stone Could feel another in the cystic duct which I could have extracted with forceps, but left it *in situ* Could feel no irregularities along the course of the common duct The small sized button was applied and the wound closed Upon opening the duodenum I could see its mucous rugæ bathed with bile, and I reproached myself for doing that which seemed unnecessary, for the common duct was patulous She did excellently, passed the button the eleventh day, and ever since has enjoyed excellent health

Case 2—Mrs J B, aged 56, troubled for six years with gall stones, jaundiced, found stones in gall bladder, cystic and common ducts, removed stones from gall bladder and cystic duct, but not from common duct Applied the medium-sized button Oct 16, 1893, which passed on the eleventh day Her convalescence was uninterrupted and now enjoys the best of health

Case 3—Mrs K, aged 58, referred to me by Dr Flemming, of Brandon, suffered for years, became jaundiced Operated on Feb 22 1894, found contracted gall bladder, bound down by adhesions, removed stones from it and the cystic duct, could not pass a probe, nor water down the common duct Applied a small Murphy button with some difficulty Had to dislodge the duodenum from its bed Button passed on the tenth day She has been restored to perfect health

Case 4—Mrs ——, aged 32, had several attacks of colic, became jaundiced from a severe attack Had inflammation over the gall bladder Was the patient of my friend, Dr Knill, of Detroit, Mich On my way South I called on my old college mate Went to see his patient and urged operation, which he had already advised The next day, March 23, 1894, he cut down to the gall bladder and upon removal of a great number of small stones from the enlarged bladder the ductus choledochus was found obstructed about its middle and low down I then inserted the small Murphy button and closed the abdomen Dr Knill writes me that she passed the button on the twelfth day and now enjoys perfect health

Cholecystectomy—Total extirpation of the gall bladder has been done upward of seventy times with a mortality of about 20 per cent It has been removed far too often Its execution is neither simple nor safe, except in those cases where it should not be done The fact that the gall bladder contains stones, mucus or pus does not call for its removal The indications which suggest themselves to me are

1 Cancer of the gall bladder when it has not yet invaded surrounding tissues, and constitutional dyscrasia not marked

2 Gangrene of the gall bladder

3 Possibly it may be safer to the patient to remove a small contracted gall bladder, than to incise it or leave it alone, and this only when the common duct is open and transmitting bile My experience of this operation is limited to one case

A Mrs F, aged 50, admitted to Chicago Charity Hospital on Sept 1, 1894 Referred to me by Professor Waugh Three years ago she had two or three attacks of colic, was then free from pain till three months before her admission, when a pain which persisted and increased in severity became established Six weeks before her admission a tender nodular tumor appeared and was enlarging

Diagnosis Gall stones with probable cancer Operation, assisted by Dr Burdick, on Sept 3, 1894 verified the diagnosis Had to remove a V shape of liver with it Died three hours afterwards from shock It was ascertained that there was no hemorrhage I should not have removed it, for it was too extensive, and she was much weaker than I had anticipated

What is best to be done to the stones in a contracted gall bladder and to those impacted in the cystic and common ducts? This is an open question The gall bladder may be removed when the common duct is free I fancy no exact lines of procedure can be laid down that would cover all cases A stone in the common duct that is easily crushed should be dealt with in this way, and they are not always hard to break, as shown by Tait Should they be easily reached and prominent, in a situation where stitching can be accurately done they may be cut out Should, however, stones obstruct a contracted gall bladder, the cystic duct, and the common duct all in the one case, there is nothing left but to incise the gall bladder, make an effort to crush or remove those in the ducts, establish an omental tract for a drainage tube to the skin, and trust to nature to do the rest If nothing is done, death from jaundice is certain

I have performed ten operations on the gall bladder, all successful except the one for cancer of the gall bladder

There is an operation—cholecystcolostomy—in which the gall bladder is communicated with the colon For the cure of biliary fistulæ, emitting but a small amount of bile, it may be safely done It is not suitable for any other conditions I have noticed the report of three successful cases

1 By Mayo Robson for biliary fistula in a woman about 40 years of age, whom he exhibited before the British Medical Association at Leeds in 1889 He did the fastening with sutures

2 Case by Chevasse in October, 1891, using Senn's plates The indication was for bile fistula

3 By Mayo Robson, Sept 20, 1893, used his modified Senn's plates Case of biliary fistula

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ORAL MANIFESTATIONS IN ARTHRITIC AND GOUTY CONDITIONS

Read in the Section on Dental and Oral Surgery, at the Forty fifth Annual Meeting of the American Medical Association, held at San Francisco June 5-8 1894

BY L L DUNBAR, M D

SAN FRANCISCO, CAL

When I promised to write upon the above subject I did *not* know that so much investigation of the gouty diathesis was in progress, or I should have hesitated to add my views to those already published, and although the promise was made prior to the publication of Dr Pierce's paper, what I have to say has been written upon so much since then by able investigators that my statements can only be viewed in the light of added testimony, instead of original matter From the mass of evidence presented, I am of the opinion that we have erred as a profession in confounding a series of alveolar manifestations under one head Ever since Dr Riggs, of Hartford, Conn, called professional attention to that condition of the dental alveoli known as "pyorrhea alveolaris," and variously by other names as "phagedenic pericementitis," etc the conditions of the oral cavity have been industriously studied by both dental and medical practitioners, with the result that an entirely new classification of its diseases is impending For nearly two decades it has been the custom of dental practitioners to ascribe every pathologic manifestation in the alveolar region attended by elongation of the tooth, recession of the gums and wasting away of the peridental membrane, to irritation occasioned by calculus deposits Almost every practitioner who has been identified with the treatment of so-called pyorrhea alveolaris has assumed the position that the condition was purely local in character, of undoubted calcic origin, differing only in degree of inflammatory and destructive action as the individual constitution is weak or strong

It is true that mercurial poisoning and scurvy were recognized in their effects upon the alveolar articulation, but these conditions were so rarely brought under the care of dental practitioners that they cut no figure in the study of oral conditions The influence of heredity was also recognized, but just how this operated was not clearly understood, so calcic it was deemed to be, and as such it has been treated, usually by instrumentation accompanied by local medication That such treatment would suffice to remove some of the manifestations where due to calcific deposits at the gingival we all know, particularly when the habits of the individual have been changed by professional direction But how many cases have been presented with no apparent cause for the condition, which have baffled every effort to relieve when treated as a calcic lesion In fact, how little is really known by the mass of practitioners of both medicine and dentistry, of the phases of true calcific deposits, or their significance As is well known, by far the greatest proportion of calculus deposits are harmless, and their precipitation a perfectly natural process How many realize, however, that there are forms pathognomonic of serious constitutional impairment, presenting in their manifestation diagnostic signs of great value

The systemic connection in pyorrhea has not been long recognized The early writers on the subject in most cases adopted the views of Dr Riggs and his treatment As this involved asepsis added to the alterative effect of the surgical treatment of the pockets and subsequent medication (usually a mild cautery), much good was done in the early stages of any alveolar lesion of whatever origin Clinical evidence has not been wanting, however, of its prompt recurrence In fact, such has been the experience of most practitioners, and many otherwise good men have openly declared that extraction was the only real cure This has been used as an argument in support of the claim that the disease is local in character, its systemic connection being negatived by the fact that disorganization ceased when the tooth was lost

I do not now expect to add anything new to professional knowledge in the views I shall advance, and shall premise that I have held the opinions here presented for several years, meeting with success enough in dealing with cases coming under my notice to warrant a closer study of those conditions of the dental alveoli that have been combined under the one title of "alveolar pyorrhea," which simply expresses a phase in the progress of *some* manifestations, as all are not necessarily accompanied by pus, hence the inadequacy of the nomenclature

Recent investigations will bring us to a full conception of its systemic connection as a local expression of a disturbance in the intercellular fluids Modern investigation has illumined the domain of cellular morphology and diseases of all kinds are being traced to their beginnings in the embryonic area Closely allied to such investigation is a study of nutrition and function

The "theory of the connective tissue channels" advanced by Moleschott in his "*Krieslauf des hebens*," which was indorsed by Virchow, is of interest in this connection Moleschott says "It is one of the grandest achievements of modern times, to the knowledge of which V Recklinghausen and Virchow have paved the way, that the connective tissue has been raised from the secondary part which at first was allotted to it, to one of productive activity such as was never anticipated, what appeared formerly only designed as a protecting covering or padding appears now as the bed of the most minute and secret streamlets of juices or sap from the blood to the tissues and back from these into the blood vessels, and at the same time as one of the most important nidi or breeding-place of new cells, which developed from the embryonic early shapes can rise to form the most peculiar and special structures of the body"

We lose sight of the fact that in the implantation of the teeth in their alveoli we have an articulation in most of its connective tissue relations the analogue of any other articulation in the body The same influences are at work here as in other members of the same group, and when we consider the nervous relations of this tissue we are prepared for the statement that the vaguely understood effects of arthritis deformans or rheumatoid arthritis may produce their peculiar destructive effect in a degeneration of the peridental membrane and the alveolar periosteum, as it does in the connective tissues of other articulations

Drs Garrod and Weber both ascribe the manifestation of arthritis to trophic influence, which may account for its appearance in one locality, to the exclusion of all other articular surfaces in their immediate neighborhood, as, for instance, in the joints of the plantar and palmar regions and in the maxillary articulations I submit, therefore, that in view of tissue relations such manifestation may occur in the dental-alveolar articulation I have seen such cases, and while presenting clinically much the same appearance that we have recognized as alveolar pyorrhea, still an analysis of the animal fluids did not disclose the presence of uric acid "In all cases of arthritis deformans the serum of the blood has the ordinary properties of the serum of healthy blood, and an analysis of the urine likewise gives negative results, while nodosity is a pathogenic feature in arthritic cases, no deposits of urate of soda are found in any stage of the disease"

Dr Garrod says that "he is persuaded that statements to the contrary are erroneous," admitting, however, "that it is not impossible that a patient may have had gout in a joint with its accompanying deposits, and that afterwards the same articulation may become the seat of arthritis but this, if indeed it ever occurs is most rare, and would not in any way favor the idea that deposition of urate of soda is a phenomenon of this form of inflammation"

It is not my purpose to enter into a detailed description of the disease known as arthritis deformans, which is the accepted name for the condition, but only to point out a possible source of an oral lesion Dr Garrod called the disease rheumatoid arthritis, and gives many reasons for the adoption of this title, but does not lay as much stress upon its tropho-neurotic origin as Weber, who has had excellent results with tonics and the application of the galvanic current to the spine and cervical ganglia

The morbid anatomy of this disease has been carefully studied by Volkmann and Adams, (see Garrod), and their observations show that from the very commencement of the inflammatory action the articular cartilage begins to suffer, a slow process of absorption seems to take place, the cartilage splits up into fibers vertical to the surface of the bone, little depressions occur which at length coalesce and the bone is left in part uncovered As the disease progresses the whole surface may be thus denuded, the osseous surfaces brought in contact with each other and in the movements of the articulations they become polished by friction and an ivory-like condition called eburnation is produced This is the cause of the crepitation in joints so affected, and enables the practitioner to verify his diagnosis in differentiation with gouty or rheumatic affections In the earlier stages the disease may be and often is confounded with these two last named inflammations, an examination of the fluids and the progressive character of arthritis, if not arrested, will make diagnosis easy

Where the manifestation is in the alveolar-dental articulation it probably has its origin in the trophic center in the spinal cord corresponding to the part affected, and I see no reason why this inflammation may not make its first appearance in the dental articulation, as in any other articular surface To the pocket once formed there is added those septic complications, varying with the habits of the individuals affected, that produce a likeness and make the difficulty of diagnosis greater

When a better knowledge of the nervous relations of the teeth has been acquired, I feel quite certain that many doubtful oral conditions will be better understood and properly classified In this connection I am impressed with the necessity for instruction in neurology as a part of the curriculum of our modern dental schools where scientific training is paramount to purely constructive work

In reference to gouty manifestations in the oral cavity, the recently published results of the investigations of Drs Pierce, Kirk Burchard, Faught and others furnish such a fund of information upon the subject as to leave no doubt in regard to the effects of retained uric acid in the circulating fluids

In the light of the before mentioned theory of Moleschott, we can understand how the peridental membrane may become the seat of such deposits as urates of lime and soda The office of the membranous groups represented by the periosteum and pericementum is the deposition of lime salts In mild inflammatory conditions, not accompanied by perversion of the circulating fluids, there is developed an activity in the pericementum that results in an increased deposition of cement beyond the typal limits of the root in similar inflammations of this membrane, caused by or accompanied with an excess of urates in solution in the circulating fluids We can understand how a deposition of salts of calcium may be made that would show upon analysis the presence of urates, indeed, we have no assurance that the presence of morbific materials in the blood would not cause the specific inflammation that induces the deposit with its inflammatory coloring

In my experience, the deposit known as serumal calculus is not removable by any means at our command that would not be equally destructive to the surrounding tissues In pockets of long standing freely accessible to the fluids of the mouth and to oral *débris*, there may be an added deposit on the surface of a root in granular form that is removable This, however, is only manifested in the last stages of the disease when re attachment is doubtful

Where the pocket is manifested on but one side, and all removable deposit has been carefully taken away, I do not think that the loss of that limited area of peridental membrane offers any barrier to return to health of the surrounding tissue and entire attachment of the tooth

It was my intention to have presented something more upon the gouty diathesis, but as the ground has been so well covered in recent publications in our professional journals, I shall not hope to bring you anything new, and trust the discussion may more fully develop a subject fraught with so much of interest

How much the uric acid diathesis has to do with other destructive oral manifestations has not been determined, but I am convinced that some specific acid condition of the circulating fluids is the cause of that mysterious wasting away of the enamel so frequently met with, and which in description of what really occurs, we denominate erosion What we now recognize as alveolar pyorrhea in its several manifestations, I have shown, or endeavored to show to be due to any one of two or three systemic conditions requiring a different classification and a nomenclature suggesting in part its origin When this has come to be scientifically developed, an entirely new system of treatment for each will be evolved Already the study of this subject by dental practitioners has been the means of introducing an entirely new salt of lithium, as an addition to the materia medica I refer to the preparation known as tartarlithin or lithium bi tartrate, first made by Dr E C Kirk, of Philadelphia, a practicing dentist and an expert medical chemist In fact all the information we have up to this time upon the oral manifestations of the uric acid diathesis is due to dental investigation What the dentist can do for these conditions will depend upon his preparation for practice and his conception of its scope, certainly instrumentation is not to be entirely relied upon Primarily this was designed to be only a process of cleansing and not instrumentation in its surgical sense To be entirely successful therefore means a wider knowledge of systematic conditions and also the ability to recognize the pathologic significance of oral lesion Are dentists properly prepared for such work? Or does the purely constructive or prosthetic secure the largest share of attention in our technical schools? We think that the curriculi of our modern schools of the best class comprise all that is essential for such a training Where they do not, the instruction in physiology, pathology, and histology can be strengthened, if not, the schools of medicine are open for post-graduate instruction with liberal allowances for work already done, thus enabling the dental graduate to complete his preparation for practice upon its highest plane

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DOUBLE NASAL ATRESIA DUE TO SMALLPOX

Read before the Mississippi Valley Medical Association, at Hot Springs Nov 20 1894

BY HANAU W LOEB, A.M , M D
ST LOUIS, MO

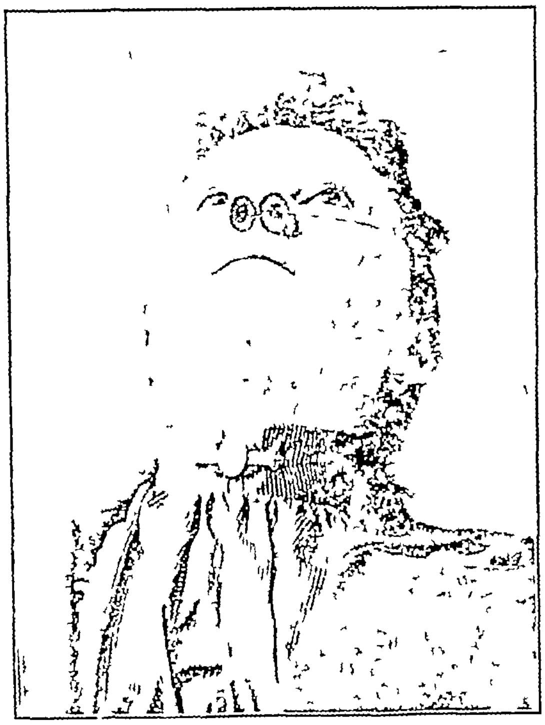
One-sided nasal atresia due to smallpox is uncommon enough in rhinologic literature, and as double nasal atresia caused by smallpox must be all the rarer, I am prompted to present the details of this most interesting case to the Association It is all the more desirable for presentation on account of the success of the treatment, and the great relief which the patient has experienced, for we all know the difficulty of maintaining an opening which nature once has closed

We read, with remarkable monotony, of failure after failure in the treatment of webbed fingers and conditions due to the deposit of scar tissue, we realize quite readily the almost futility of the treatment for the permanent relief of cicatricial contractions and adhesions, resulting from syphilitic lesions of the pharynx, palate and larynx, so that while no great skill is claimed in the management of the case in point, yet the patient's condition after a year and a half of observation certainly merits attention

Miss E T, age 30 years, consulted me first on April 6, 1893, with the following history Twenty-nine years ago she was subjected to a severe attack of smallpox, which very seriously affected her health The disease was of the confluent type, and exhibited itself more upon her face than any other portion of her body There had evidently been a coalescence of a number of pustules over the alae of the nose, and the portion of the lip which is in immediate relation with the nose Considerable scarring naturally resulted, mainly exhibited on the face, especially in the region of the nose and lips She had several scars upon her body, arms and lower extremities, but none manifest the degree of cicatrization that is to be found in those upon the face The result of this loss of tissue was a very decided contraction of the nasal orifices, so that they were no larger than a broom straw

Five years afterward, an attempt was made by a prominent surgeon to enlarge the openings of the nostrils For some reason the only effect was to completely obliterate the openings, so that for the past twenty years she has been absolutely unable to breathe through her nose

Since that time the patient has been in fairly good health, with the exception that she has been suffering from a dry throat which was especially severe early in the morning, so severe in fact, that she was prevented from partaking of an early morning meal She suffered very frequently from headaches, which were localized to no particular part of the head Strangely enough she was not subject to acute pharyngitis though her throat, she said, was a source of continual trouble She has not been subject to bronchitis, and she has never had pneumonia or any serious illness since her attack of small-pox During the two years previous to the time she consulted me, her symptoms were somewhat aggravated, and the dryness about her throat had increased The hawking and clearing of her throat which were almost continually a source of annoyance to her were decidedly increased, and, as she expressed it she was much sicker during this time than before She fails to relish her food from a lack of taste



Examination revealed very plainly the effect of the attack of smallpox Numerous scars were to be found like the
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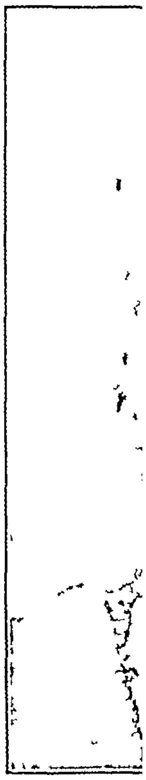
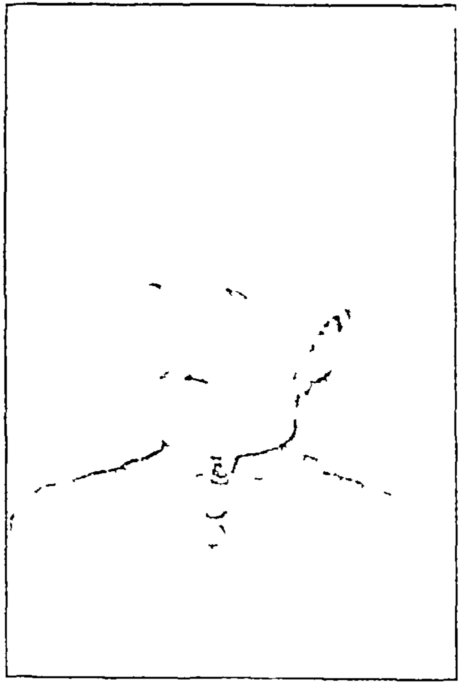
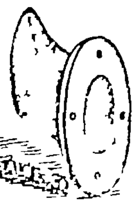


appreciate the odor of flowers three days after the operation

On March 31, 1894 a second operation was performed upon the left side as it was evidently not so satisfactory as the right nostril a fact easily explained when it is remembered that so much of the alar cartilage was destroyed The incision was carried somewhat higher up toward the tip of the nostril than it had been and a slightly larger tube was as inserted This operation has had a decidedly good effect, and now the left nostril is almost as perfect as the right Since July 1, she has not worn the tubes during the day, now four months Examination on September 15 revealed no evidence of any return whatever to the original condition It was suggested to her that she might leave the tubes out altogether, but since she is rather fearful lest her old condition might return, she prefers, at least for the time, to wear them every night



The illustrations which are presented, exhibit the appearance of the case with the tubes inserted, and the appearance of the nostril a year and a half after treatment The picture showing the condition of the nose before the operation is not a very satisfactory one, being taken from an old photograph, of some ten years ago



I am quite certain that the good result in the present case has been due to two circumstances In the first place the mucous membrane and the skin were united, the skin being rather redundant, and therefore capable of forming a good protection for the margin of the nostrils If there had been less skin, I am quite certain that the result would not have been quite so pleasing, but with the redundant tissue it was reasonable to expect so good a result In the second place, the tubes which she wore subjected the nose to no pressure, and maintained their position without any degree of irritation They fulfilled their function so nicely, that I would commend a similar tube in any case of a like nature

321 North Grand Avenue

CASE OF FRACTURE OF ANATOMIC NECK OF THE HUMERUS

BY L L GIBSON, M D

STAUNTON, VA

A 16 year old boy, of good build, fell about twenty feet into some ladders I saw him about two hours after the injury, he complained of great pain at the shoulder joint A slight contusion was seen on the front of the arm at the shoulder joint, I was unable to find any other contusion

On superficial examination, I thought I had a subspinous dislocation, but the protrusion did not look as large as would be expected To isolate fracture, I placed the fingers of one hand on the bicipital tuberosities and rotated the humerus, they were felt to move under my fingers, no crepitation was elicited in this way Dr J St P Gibson saw him at this time and confirmed my diagnosis He was given chloroform, reduction was effected by Koker's method after several trials Rotation was now made and crepitation was very perceptible

Treatment Gibson's wire splint which was described in the Transactions of the Ninth International Medical Congress, Vol I, page 585, was applied

By this means extension was continued for four weeks, at which time the wire splint was removed and a pasteboard crown splint was applied and allowed to remain two weeks Upon its removal the deltoid muscle was found much atrophied, allowing the head of the humerus to be examined thoroughly A line of callus could be felt The joint admitted of all motions without pain and a perfect shoulder is the result The crown splint will be retained for a couple of weeks longer, allowing slight motion

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SANITARY LEGISLATION

Abstract of Remarks before the Auxiliary Health Association, Springfield Ill

BY CLARKE GAPEN, M D, LL B

KANKAKEE, ILL

As I look back over the twenty years of my life and work in medicine, I find that nothing has grown upon me more steadily or forcibly than the belief that the future of medicine is to be largely in the field of sanitation The medical man who has kept himself abreast with the times has seen one line of treatment and one theory after another give way My worthy preceptor who presides here, twenty years ago taught me many things that to-day he would declare worthless All of our teachers have taught us much with regard to medical treatment which has since vanished into thin air like the baseless fabric of a vision, but in all this time sanitation has steadily grown in importance until to-day in practical significance it is not secondary to any other thing, even in medical instruction

The fact that my experience in the line of sanitary work has been somewhat extended and peculiar, is my only excuse for offering ideas of so positive a character as those which I now present Beginning with an almost absolute sanitary chaos, in a city of

150,000 people, I passed through the experience of the organization of a sanitary department which in the end was practically complete My first step was to familiarize myself, as far as possible, with what had been done in sanitary work throughout the civilized portion of the world After doing this and formulating a definite plan, we went directly to the Legislature for the basic law upon which to construct our sanitary organization, and looking back over that work after five years, I now think that that was the wisest thing we could have done under the circumstances This, you will see, is diametrically opposed to a view which has been expressed here to the effect that the work should be begun with the education of the masses

In my opinion it is far better to begin work at the other end of the scale Ideas of sanitation like all other advanced ideas, must begin at the top and work downward There is no such effectual educator as law By that, I do not mean that we should go to the Legislature and get a vast number of statutory laws enacted Such a proceeding would break down the whole organization which would fall, as it were, of its own weight, but there should be formulated and enacted by the highest legislative authority in the land, laws containing the basic principles of sanitation This done, you have a foundation on which you can proceed to educate the masses In all sanitary work the greatest obstacle to be met is the ignorance of the people in reference to sanitation There is opposition to sanitary work to be found everywhere that it is attempted It is, however, not malicious As an illustration, comes to my mind the conditions now prevalent in Milwaukee The intelligent people of Milwaukee are not opposing the enforcement of the sanitary laws It is the ignorance of Milwaukee that is opposing and even antagonizing the State law itself If the authorities there had no surer foundation than the excited state of public opinion that prevails there, the Department could not exist Such existence as it has is based upon the enactments of the State Legislature In our work in Omaha, we first formulated the law which was passed by the State Legislature This law created in all cities of a given class, sanitary departments, and fixed the character of the organizations which should control and operate them Upon this law the local organization was founded This local organization then proceeded to enact a sanitary code, which was to be the law of the territory controlled by this sanitary organization I think that you will find that these three steps will have to be taken in just the order named

So far as the work of this organization is concerned, I feel that it has not been begun a moment too soon It should meet again at an early date to formulate a plan and complete an organization which should have an active representative in every locality, and which representative should exercise an influence upon the member of the Legislature from his district, with the object of bringing about during the coming winter a definite legislative result, in the form of such basic laws as are necessary to the organization of sanitary departments in every portion of the State First in importance, in this legal enactment, should be the recognition of the principle that *sanitary organizations should be based upon State law instead of upon municipal law* There is nothing so unreliable, nothing so certain to defeat the objects in view as municipal law Municipal law is one thing to-day, another thing to-morrow A board of aldermen may formulate a law to-day, which in order to get a particular individual out of office it may repeal within a month No organization is safe or efficient which is founded wholly upon municipal law in this country

As to whether each town, city or county should have a board of health is a somewhat open question I am inclined, however, to think that the existence of a board of health at least in every good-sized town is desirable In our organization, after much deliberation, we concluded that it was wisest to have such a board in every city of the first class However, as I have indicated, a good and efficient sanitary department may be operated without a board of health, the head of such department being an officer with power to execute both State and municipal enactments

Another and most important provision *which should be included in the basic law*, is a provision for the maintenance of the office or department It should be as impossible for local influences to cut off the support of such department, as it is for them to abolish it As I look back over the work in Omaha, I feel that this was the one particular in which we fell short We asked the Legislature for a tax of 1 mill upon every $100 of taxable property for the maintenance of sanitary departments We succeeded, however, in getting only ⅛ of a mill This tax amounted to a sum sufficient to meet the salary of the executive officer and the necessary expenses of the office, but was not sufficient to provide for as extensive sanitary policing of the city as was desirable The extra provision had to be made up out of the city's treasury by the common council and fluctuated in amount in accordance with the state of feeling existing in that body toward the sanitary department All who have been engaged in sanitary work in cities know that it is a custom for ward politicians to "load up" the sanitary departments with irresponsible individuals, good for nothing else, and good for nothing there Attempts to build up a sanitary department upon the basis of merit strictly, are met with opposition from members of the council who have friends for whom they wish to secure soft berths The statutory provision should make it impossible for local influences to thus cripple a Health Department I mean by this, that taxes for the support of a sanitary department should be levied in the same manner as the school taxes are levied It is impossible for a city council to reduce the school tax below a given point, and this should also be true with reference to the funds necessary for the support of sanitary departments I think, however, that at this point State interference should cease, just as State interference ceases in reference to school matters when it has made the maintenance of schools obligatory upon each town or city, and has made provision for their support by taxation The appointment of the executive officer of the board or department of health should therefore, in my opinion, rest with the mayor, and the term of office of this official should be co-existent with the term of office of the mayor There are two methods of forming a board of health The one being the appointment of worthy citizens to compose the board who have no direct connection with the city's affairs The other is by forming the board of officers who have a direct connection with the city's affairs Of these two methods, I prefer the latter, for the reason that officers who have a direct and paid connection with the city's affairs are much more likely to give attention to them and to keep themselves familiarized with them than the other class of citizens whom I have mentioned To my mind, an ideal board of health should be composed of the mayor, chief of police, two representatives of the common council and a commissioner of health, who shall be the executive officer of the board

The next step is to formulate a sanitary code I spent some nine months studying the sanitary codes of the various cities of the world before formulating the code adopted by the board of health in Omaha, and acquired what was to me, some very interesting information The first thing that impressed me was the wide difference between municipal government in this country and in Europe for example,—the city of Birmingham in England has a municipal government which is said to be a model one, that costs less than $5 per capita per year, and the superb city of Munich is maintained at about $13 per capita The municipal administration of the city of New York costs about $25 per capita, or five times as much as Birmingham, and as every one knows is most inefficient and corrupt The same may be said of most of the large cities of this country In my opinion the next great reform that will sweep over this country will be municipal reform

Model sanitary departments are found in Berlin Munich Glasgow, Birmingham, and numerous other European cities but are to be found in none of our American cities Glasgow has one of the best health organizations in the world which deals with exceptionably difficult sanitary problems, and is maintained at a cost of about $500,000 per year In this country, the model State board of health, and in fact, the only State board of health that exists with anything like full powers and support is that of Massachusetts The States of Minnesota and Michigan each have however, health departments worthy of study and consideration In the great State of Illinois with a population of 6 000,000 people, a State possessing the greatest resources of any State in the Union, perhaps the members of the State Board pay their own expenses Provision should be made to maintain in this State a board of health in keeping with the character and resources of the State A sufficient provision should be made to pay the members a per diem for actual service and to maintain an office, chemic and bacteriologic laboratories, and all necessary medical and other skilled supervision, and to insure competent sanitary inspection wherever needed In short it should be provided with authority and support

The State Board of Health of Massachusetts maintains at Lawrence a complete department for the examination of water, and this department has contributed more to the knowledge of the purification of water than any other body of scientific workers in the world It has furnished the facts upon which water purification is based all over Europe to day, though, strange to say these facts have so far excited comparatively little influence in this country A department is also maintained in connection with the Boston Polytechnic Institute for the examination and study of foods To the water department may be sent the water of any village or farm-house and the people may know whether they are drinking safe water or not To the food department the citizen may go for information in reference to all questions of food adulterations An organization should be effected whose voice will be heard from the northern boundary of the State to its southern limit demanding in language that can not be misunderstood that something may be done in relation to sanitation worthy of our great State

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854-1894

BY JOSEPH JONES, M D , LL D

NEW ORLEANS LA

(Continued from page 75)

CHAPTER III

None of the tables in the article of Dr Faget support the assertion in the article, "Fevers," of the new French Dictionary of Medicine (1871) "In some fevers the remission is long and complete, as in yellow fever, for instance, in which the *initial attack* is separated from the *terminal fever* by a *remission* of one or several days duration " (Vol XIV , p 742) On the contrary, according to Dr Faget, "yellow fever shows *one single efflorescence*—only *one paroxysm*, never a true remission, and the *unique attack* subsides immediately Its progress is regressive as soon as it appears This last peculiar feature would not show as plainly in our tables, but for the fact that they often begin after the second and even third day The fact is that the decline is marked from the very beginning, in the line of the fever only , as for the temperature we shall see that it even increases, at least, in two thirds of the cases during the first two or three days The thirty-eight observations of 1870 also contradict the opinion concerning the *short duration* of yellow fever According to La Roche's opinion, based on immense learning, it would be three days (3×24=72) A febrile stage of about seventy hours' duration, more or less, is succeeded by a period of complete cessation of fever (Vol I , p 426) Judging from our tables, it should be six or seven days (6×24=144 hours) "The maximum of temperature in yellow fever, in New Orleans in 1870, has been, in the average of cases, 104 1 degrees Such is the average maximum of fevers in general , there is, therefore, in this, nothing peculiar in yellow fever The particular and special feature is that 1, this average maximum of temperature is very rapidly reached in yellow fever cases In about one third of our cases (twelve in thirty eight) the maximum has been reached on the very first day , in one fourth of the cases (nine in thirty eight) it was on the second day , in another third of cases (fourteen in thirty eight) on the third day , and in three cases the disease had gone over three days before reaching its maximum, and it went on steadily decreasing till it reached the normal standard, and even below that point, except in cases where special circumstances or accidental causes easily accounted for, such as secondary congestions appeared Thus we can say that there exists *no stationary* stage in yellow fever The decrease of the temperature has been remarkably slow Up to the fifth day it had not yet reached the normal standard in most of our cases

The exceptions were such as were very mild, or such as proved rapidly fatal In twenty or thirty the thermometer registered 100 or 102 degrees on the fifth day

"In short, the march of the temperature in our tables is marked 1, by a period of increase, very rapid and of very short duration, and 2, by a period of decrease, rather slow and long There is no sign of a true stationary stage Thus the study of temperature in yellow fever offers for our consideration only an effervescence and a defervescence

"I shall sum up in saying that, the march of the temperature in yellow fever, as shown by the graphic lines representing it, is characterized by a unique paroxysm with an effervescence of one to three days, followed by a defervescence of four to seven days, without any stationary stage

"We consider that we are now authorized to say that in yellow fever we are able, in the majority of serious cases, to detect from the beginning of the fever, one of its most precious diagnostic signs, and that is the divergence of the lines indicating the march of temperature and pulse The line of the pulse descends immediately, while the line of temperature ascends, and that during one, two or even three days

"But I shall insist upon saying that the direction of the lines of temperature and pulse is of special importance in the incipient stage of the febrile paroxysm of yellow fever, in view of the diagnosis of the disease In the great majority of serious cases, the line of pulse descends, while the line of temperature ascends Are we not justified in our belief that there very likely exists no other disease in which the same occurrence obtains?

"Let us now consider the specific character of yellow fever, which shows itself in our opinion, by the action of its morbific principle on the heart, this action being denoted by a diminution in the number of pulsations from the very beginning

"In the work that I published on yellow fever in 1859, after having studied the progress of the fever, without the thermometer, guided only by statistics of the pulse, and those statistics compiled from at least a hundred observations, taken by a dozen physicians during the epidemics of 1839, 1853, 1858, I expressed myself in the following manner (p 85)

"In all these observations written at the bedside of the patients during three different epidemics in New Orleans we perceive, nearly without exception, that the pulse at its *apogeum*, from the first day gives even more than 100, sometimes 110 and 120 pulsations, begins to fall the second day, continues to decrease regularly the third, and gives from that time 70 to 80, sometimes much less"

"The regular and rapid decrease of the pulse is such in yellow fever, from a record of a hundred observations, that we could recognize it as the true characteristic of that fever

"To-day, after the epidemic of 1870, that is to say, after having been able to study the progress of yellow fever, not only with the 'independent second watch,' but at the same time with the thermometer, I think further hesitation is impossible, the diminished frequency of the pulsations, that is to say, the heart's action, show themselves from the beginning in yellow fever, and consequently in the height of febrile excitement, as certified by the thermometer This is the essential characteristic of this fever, and, in fact, a like decline of the pulse is not a simple abatement of the fever, since it occurs in the great majority of cases during the increase of temperature. We find, then, a diminution of the beats of the heart, produced by a direct specific action of the poison itself of yellow fever, in the central organ of circulation This specific action of yellow fever poison on the heart can be compared to the effect produced on that organ by certain poisons, as, for instance, digitalis and veratrum viride

"Now the specific character, clinically demonstrated has just received the most remarkable anatomic confirmation in the observations upon yellow fever (just published by Prof Joseph Jones, of the University of Louisiana) This is what he says on page 8 of his pamphlet "The central organ of circulation is structurally altered and enfeebled in yellow fever, the muscular structures of the heart present alterations similar to those observed in the liver and kidneys Oil, granular, albuminoid, or fibroid matter is deposited within and around the muscular fibrillæ, and the organ after death presents a yellow flabby appearance These lesions of the heart, shown by careful *post mortem* examination, are characteristic of the disease" The general table of the average of the pulse, furnished by Blair, like ours of New Orleans, not only shows the steadily decreasing character of the pulse in yellow fever, but it also demonstrates beyond a doubt that this fever has but one paroxysm, and consequently it is a continued fever, continually decreasing but still continued "If, then, yellow fever remained a fever with but one paroxysm, in Guiana as well as in New Orleans, it proves it not only to be a continued fever, but one that resists efficaciously the concomitant influences of malarial fever' (Type and Specific Character of True Yellow Fever, *New Orleans Med and Surg Journal*, September 1873, pp 145–168)

Dr D D Saunders, of Memphis, Tenn, in his valuable "Observations on the Yellow Fever Epidemic of 1873 at Memphis, Tenn," gives a tabulated record of the pulse and temperature in seventy-three cases of yellow fever The daily average of the temperature and pulse, was as follows First day temperature 102 degrees, pulse 114½ Second day temperature 102 5 degrees, pulse 112½ Third day temperature 102 2 degrees, pulse 107¼ Fourth day temperature 102 degrees, pulse 96½ Fifth day temperature 102 2 degrees, pulse 86½ Sixth day temperature 101 5 degrees, pulse 74 Seventh day temperature 99 5 degrees, pulse 69¼ Eighth day temperature 99 degrees, pulse 68 Ninth day temperature 97 8 degrees, pulse 64⅔ Tenth day temperature 98 1 degrees, pulse 65½ Eleventh day temperature 98 degrees, pulse 67¼ Twelfth day temperature 98 2 degrees, pulse 71⅔ Thirteenth day temperature 98 5 degrees, pulse 80 Fourteenth day temperature 98 5 degrees, pulse 82

In ten fatal cases the daily average of the temperature and pulse was First day temperature 105 degrees, pulse 120 Second day 105 5 degrees, pulse 120 Third day temperature 105 7 degrees pulse 116½ Fourth day temperature 106 5 degrees, pulse 114½ Fifth day temperature 104 6 degrees, pulse 106⅔ Sixth day temperature 103 degrees, pulse 100⅗ Seventh day temperature 102 8 degrees, pulse 99 Eighth day temperature 101 degrees, pulse 99⅕ Ninth day temperature 97 5 degrees, pulse 81 Tenth day temperature 99 degrees, pulse 100 Eleventh day temperature 98 degrees, pulse 120 Twelfth day temperature 97 degrees, pulse 130 Thirteenth day emperature 96 degrees, pulse 130

Of the ten fatal cases, five died on the fifth day of uremia, one died on the sixth day, of uremia, one on the seventh day, of nervous prostration, one on the ninth day, of uremia, one on the tenth day,of uremia, and one on the fourteenth day, of uremia No case of uremia lived over fifty hours, after urinary suppression set in

Dr Saunders remarks "The tables accompanying this report show yellow fever to be a full fledged fever within a few hours after its initiation, and the circulation is as rapid then as it ever gets to be unless complications arise, as in the winding up of the fatal cases The pulse begins to diminish in frequency within a few hours of the beginning of the fever, and in the stage of convalescence will descend below the normal standard I saw it descend to thirty-six beats per minute and the patients recovered The temperature, however, will generally either hold its starting point, or gradually ascend from 72 to 120 hours, and then if there are no complications, begin a gradual descent with the pulse, and go below the normal standard of 98 5 degrees in convalescence I saw the thermometer descend below 95 degrees, and the patient recover In these cases when the pulse and thermometer descend gradually together, after the second day, no apprehension of danger need be entertained, they will always get well Such was the result of my observation I saw no case of yellow fever recover when the thermometer marked over 106 degrees, on the first and second visits, and I saw no fatal case when the pulse and the thermometer gradually descended together below the normal standard

"I believe with Prof Joseph Jones, that when the temperature ranges very high from the first, the patient may die suddenly, overpowered by the poison, as in cases of sunstroke "

The results obtained by Dr R W Mitchell,[47] of Memphis, Tenn , and by Prof Samuel Logan[49] at Pensacola, sustained those previously announced by Blair and others Dr Mitchell gives a valuable table of the daily variations of the pulse and temperature in forty eight cases of yellow fever, the general results of which will be more fully examined hereafter

With this general historical introduction we will proceed to present specific details and the results of original investigations The general results of my investigations upon the changes of temperature and conditions of the pulse in yellow fever may be formulated thus

The maximum elevation of temperature is attained upon the first, second, and third days of the disease, ranging, according to the severity of the attack, from 102 degrees to 110 degrees in the axilla, and, as a general rule, from the third to the fifth day steadily falls and sinks down to the normal standard, and even below In some fatal cases it rises again toward the end, rarely, however, reaching or exceeding, during the stage of passive hemorrhages, black vomit, jaundice, and urinary suppression, 104 degrees, and, as a general rule, never attains the high degree of temperature characteristic of the first stage The supervention of an inflammatory disease, or the occurrence of an abscess, or the access of malarial fever, after the first stage, may in like manner cause a progressive elevation of temperature, with slight evening exacerbations

The pulse at the commencement of the attack is rapid and full The frequency of the pulse does not, however, as a general rule, continue to correspond with the elevation and oscillations of temperature, as in many other febrile diseases, and in many cases of yellow fever the remarkable phenomenon is witnessed of the pulse progressively decreasing in frequency, and even descending below the normal standard, while the temperature is maintained at an elevated degree, and on the other hand the pulse frequently increases in frequency, but diminishes in force, near the fatal issue The occurrence of copious hemorrhage from the stomach or bowels may be attended with sudden depression of temperature, and increase in frequency with diminution in the force and fullness of the pulse

The remarkable progressive decrease in the beats of the pulse after the first stage in many cases appears to be due to several causes, as the anatomic changes in the heart (acute fatty degeneration), and the retention in the blood of the bile and urinary constituents

If the temperature rises in the first stage above 105 degrees, the patient is in imminent danger, and if it reaches from 107 degrees to 110 degrees, death is inevitable, whatever may be the treatment adopted In cases attended with the rapid rise of the temperature to 106 degrees and beyond in the first stage, death sometimes occurs suddenly, and apparently solely from the effects upon the blood and nervous system of the great elevation of temperature, as in sunstroke The truth of this statement will best be illustrated by actual observations, and especially by the following case, which has recently occurred in my private practice

Mrs W , aged 28 years, has resided in New Orleans eighteen months, large, well developed, with clear complexion and high color in health Mrs W called at my office July 21, stating that she had just passed through the menstrual period, which had been protracted for ten days, was very profuse, and had confined her to bed She complained of great weakness, 'heaviness" of feeling, vertigo, and pain in the head, back, and limbs, symptoms which appeared to be attributable, at least in part, to the hemorrhage, as I had attended her upon previous occasions when suffering with analogous symptoms resulting from profuse menstruation July 22, 1 P M , I was called to Mrs W and found her suffering with slight febrile excitement, pulse 90,full and strong, face flushed, pain in head back and limbs July 23, 9 A M Face greatly flushed and of scarlet hue, capillaries of the extremities and face and surface generally congested, patient greatly agitated and alarmed says she has yellow fever and will surely die It was difficult,if not impossible, to calm her fears Skin warm, but bathed in profuse perspiration, pulse 108 full and strong, great pain in back and head 3 30 P M , pulse 110, temperature 103 5 degrees, urine abundant, light yellow, slightly turbid from presence of vesical and vaginal mucus, a trace of albumen Menstrual flow returned for an hour or two during the morning, but ceased again, capillaries of the surface intensely congested, tongue red at tip and edges, furred in center July 24, 9 A M , pulse 118, respiration 30, temperature 106 8 degrees, skin hot and dry The fever rose in the evening, patient talked and muttered in her sleep, and frequently awoke suddenly with a start and cry, moans and sighs with every breath, is greatly agitated and alarmed, declares the case is utterly hopeless, and that her lower extremities feel as if they were paralyzed Pain in head, back, and limbs intense, nausea constant and distressing, but no vomiting, heavy, disagreeable odor emit-

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NOTE—New Orleans Medical and Surgical Journal, 1874, p 791

[47] Yellow Fever in Memphis in 1873, by R W Mitchell of Memphis Tenn , Richmond and Louisville Medical Journal May 1874

[49] Bedside Notes on the Pulse Temperature and Urine, in cases of Yellow Fever observed at Pensacola Navy Yard in the fall of 1874, New Orleans Medical and Surgical Journal, May 1875, p 779

ted by the body, as in yellow fever, great congestion of capillaries, *face and hands of a scarlet hue*, an eruption has appeared upon the forehead, the surface of the face, trunk, and extremities is as highly injected and as red as in scarlet fever or measles, but the brilliant redness is more uniformly diffused over the surface than in either of these diseases Urine abundant, light yellow color, specific gravity 1020, contains a small amount of albumen, with detached cells from the tubuli uriniferi and yellow granular casts, together with vesical and vaginal epithelium Upon standing, the urine let fall a moderate deposit of urates of ammonia and soda, mingled with the cells and casts 3 P M, pulse 108, respiration 36 temperature 106 3 degrees, skin hot and dry, face and surface generally of a deep scarlet hue, pressure drives out the blood from the capillaries and leaves a white spot, into which the blood slowly returns Tongue coated in center, with yellow fur and red at tip and edges, swollen, with margins indented by the teeth, moist and soft Nausea, depression, fear of death and bad odor from the body unchanged 9 o'clock P M, pulse 112, temperature 106 2 degrees, respiration 38, moans and sighs with every breath, when spoken to answers rationally but often slumbers, starts, and jumps in a delirious, nervous manner, odor from the body heavy and offensive

July 25 10 A M condition unchanged, pulse 118, full and strong, respiration 36, temperature 108 degrees The delirium and restlessness of the patient prevented thermometer being held well in the axilla, the actual temperature was therefore somewhat above 108 degrees, and probably reached from 110 degrees to 113 degrees in the cavities of the heart Conjunctivæ congested, gums red and spongy, odor of body very offensive, surface of face, trunk, and extremities greatly congested and of a brilliant scarlet hue, forehead covered with a distinct papular eruption Urine light colored, specific gravity 1020, contains albumen in considerable amount, numerous granular casts of tubuli uriniferi, kidney cells, granular yellow albuminoid matters, and amorphous deposits of urates of ammonia and soda Two hours after I was summoned to the bedside of the patient, and found her in *articulo mortis*, pupils contracted, spasmodic respiration, with death rattle in throat I was informed that she had started suddenly in a disturbed sleep, made several ineffectual efforts to vomit and passed immediately into this state She was unable to swallow Sinapisms were freely applied, but without effect

The treatment of this case will be briefly mentioned, although we are not now engaged with this subject The bowels were first opened with a saline cathartic, followed by quinin Rest was then promoted by Dover's powder The bowels were afterward kept open by means of enema The diet was light but nutritious, and administered in small quantities at regular intervals, the action of the kidneys was promoted by the use of gentle diuretics, as orange leaf tea and water charged with carbonic acid gas Quinin aggravated the delirium, and was abandoned at once Alcoholic stimulants were found in like manner to aggravate the pain in the head, the nervous excitement, and delirium Cold wet cloths were applied to the head, and the surface bathed with tincture of camphor and water

In the last moments of life the scarlet flush of the surface gradually faded, and at the moment of death, which occurred at 1 P M, the surface presented a yellow jaundiced hue, after death, body mottled, decomposition rapid I attributed the death of this patient to the high degree of heat and the consequent disorganization of the blood and derangement of the nervous and muscular forces consequent upon the action of the febrile poison

(*To be continued*)

Two Hundred Years' Theses in Paris —The number of theses for Doctor of Medicine defended before the Paris Faculty of Medicine from Dec 18, 1794, to July 31, 1894 is 28,793, to these must be added 793 theses for "agregation," and 220 theses for professional honors or a total of 29,806 The theses for "agregation" were in vogue for sixty years, from 1825 to 1886, those for professors about half that period

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HOSPITALS FOR THE INSANE—THEIR SCOPE AND DESIGN

BY EDWARD F WELLS, M D

CHICAGO

(*Continued from page 41*)

THE INSTITUTION

Capacity —The first questions to be asked in designing an institution for the insane is, What shall be its initial, and what its ultimate capacity? If these are to be the same it may be constructed upon rigid lines, if both are known only a limited degree of flexibility of design is necessary, but if, as is usually the case, the initial capacity is known, while the ultimate capacity is a decidedly unknown quantity, then the design should be so elastic that future extensions may be economically made, to any reasonable extent, without marring the symmetry or incurring any loss of balance The truth of this proposition has been so often demonstrated that it should not only be frankly acknowledged, but heeded as well Without going into any argument upon the subject, we should also acknowledge the fact that the irresistible tendency of the times is toward large institutions The day of small State insane hospitals has long gone by, never to return—they offer no advantages and can not be afforded

The question of capacity, initial and ultimate, should receive careful consideration in connection with the proposed new hospital for the insane in Illinois It is clear that the initial capacity should provide for present needs, plus the probable increment during the period of construction, and the subject of present requirements will first demand attention

There were, in 1880, in Illinois 5,121 insane persons In 1890 there were 6,638 insane, an increase equal to about 3 per cent per annum A continuance of this rate to the present time would indicate that there are now 7,534 insane persons in the State Dr Bettman, President of the Board of State Charities, estimates the number at 7,000 If the increment continued at the same rate during the construction period of a State hospital—estimated at two years—the number would be 7,932

The comfortable capacity of the four State, and one large county, hospitals, together with the number of inmates now present, and with the overcrowding, as represented by the excess, is shown below —

Hospital	Capacity	Inmates Nov 19,1894	Excess	Deficit	
Kankakee	2 000	2 090	90		
Jacksonville	1 200	1,222	22		
Elgin	1,100	1,115	15		
Anna	946	853		93	
Dunning	900	1,067	167		
Totals	6 146	6 347	294	93	Corrected excess 201

In 1892 there were in the county almshouses of the State—outside of Cook County—848 insane persons, distributed as follows —

In the counties composing the Central Hospital District, 425, Northern, 167, Eastern, 158, and Southern, 98

That these numbers have not decreased since that date is made clear by the investigations of Dr J F McKenzie, Superintendent of the Central Hospital, who writes me as follows —

"In the thirty-three counties composing our Lunacy District there are something over five hundred insane persons confined in poorhouses and jails This fact I learned by sending a circular letter to the county clerks of the different counties"

It is quite probable that a canvass of the counties of the other hospital districts would disclose a corresponding increase in the unprovided-for insane

Taking then, the 848 insane in the almshouses, plus the probable increase of 144 and the hospital excess of 201, and we have a total of 1,193 insane persons in Illinois who urgently need hospital care at the hands of the State The number will have considerably increased before the end of the building period

Taking all these, and other facts into consideration, it is a reasonable opinion that the proposed new hospital should have an initial capacity for, at least, 1,200 patients, and that the growing demands of the State will require an ultimate capacity of, certainly, more than two thousand These figures, instead of appalling our authorities should lead, instead, to careful consideration and judicious action

Location —It will have been noticed that the Southern Hospital has a capacity for 946, with only 853 inmates It can accommodate 93 more than it does, and this is nearly equal to the number of the insane in the almshouses of the Southern District in 1892—98, or the probable present number, 111 The slight excess indicated could probably be best provided for by transferring the twenty six insane of Clark County to the Eastern District The almshouse contingent and hospital excess—dividing that of Cook County as provided by law—of the other districts would be about as follows —Central, 522, Northern, 266, Eastern, 412, total, 1,200 A glance at the map, with due consideration of the present hospital districts, distribution of population, lines of transportation, etc, will show that the proposed new hospital should be given a district composed of the northern counties of the present Central District, the northwestern counties of the Eastern District, and the western counties of the Northern District

The hospital should be centrally located and be conveniently accessible to all parts of the district it is intended to serve It should be near some town or city of moderate size The water supply should be of good quality and practically inexhaustible Facilities for drainage should be perfect Proximity to a cheap fuel supply and adequate railroad facilities are very important These are of such vital importance that no site should be even considered which does not fulfill, absolutely the first four requirements, and meets, fairly, the last There are many other circumstances which will recommend one site above another, but these can not be considered

Water Supply and Drainage —In the matter of water supply the history of so many public institutions has been unfortunate that I feel the subject worthy of special mention and emphasis As stated above, the water supply should be inexhaustible and the drainage perfect The water supply plant should be designed for furnishing water at the minimum rate of 100 to 300 gallons per patient daily and the system of drainage should easily dispose of the resulting effluent Furthermore, inasmuch as the history of our State institutions show that they almost inevitably undergo enlargement, the mains for water and the trunk lines of sewer should, from the first, have a capacity of, at least, double that of the initial capacity To meet the contingencies of possible accidents, two pumps should be provided

Design —Within a period of time easily compassed by the memories of persons yet living, three distinct systems of insane hospital construction have, in turn, found favor at the hands of superintendents and building commissioners, viz , the corridor, the cottage and the detached pavilion The long gloomy corridor, the heavy-laden atmosphere, and the constantly occupied ward have condemned the Kirkbride plan The great cost of construction, and of maintenance, together with the impossibility of exercising any efficient supervision have made the cottage hospital unsatisfactory The objections urged against the cottage system apply to the detached pavilion The last two are free, in principle, from the radical and inherent sanitary defects of the first named

Progressive managers of hospitals for the insane, in common with other enlightened directors of public economic affairs, have been, and always will be, eager to adopt that which all the world is seeking—the "something better"—and to the credit of these managers it may be said that there have been very few examples of retrograde movement in the construction of American institutions of this class

Although not often formulated there can be no difference of opinion as to the fundamental requirements for the modern State institution for the insane It must be healthful, it must conduce to the curability of insanity, it must afford facilities for minute classification, it must protect patients from injury, it must protect attendants from unjust accusations it must permit efficient supervision by day and by night, it must be susceptible of convenient administration, it must be of economical construction, and, finally, it must favor economical maintenance These requirements are not of an extraordinary nature—on the contrary, they are essentially commonplace, and common-sense—and they may be had in combination without sacrificing in any degree their individual excellence Certainly, every new hospital should demand and receive the highest obtainable excellence in each and every one of these particulars

Facilities for Supervision —The wards should be so arranged as to permit efficient supervision, without increasing the cost A closer system of supervision has always been desired by hospital managers and various expedients have been resorted to in the endeavor to improve upon ordinary methods Thus there has long been employed at Norristown, near Philadelphia, a system of supervision by an inspector, who occupies a small chamber between two wards, elevated above the second floor From this chamber the occupant commands a view, directly, of the two upper wards, and, by means of a tube and an arrangement of mirrors, of the two lower wards—in all, four wards Of this system the Committee on Lunacy of Pennsylvania have to say in their report for 1891 —

> "With the added experience and observation of another year your committee are firmly convinced that the present method of supervising the duties of those who daily attend the inmates should be improved The so called inspectory system established by the superintendent of the male department of the Norristown Hospital whereby inspectors control a view of the wards and occupants at all times, has continued in successful operation for several years past Your committee have been watching with interest the practical working of this system and further observation of the results, as compared with the usual methods of supervising attendants on duty, has led us to a favorable opinion of the inspectory system and, we recommend to the earnest consideration of the trustees and superintendents of other hospitals this, or some other plan for the better protection of the patients from violence, injury, or any dangerous coercion, and the attendants from groundless accusations "

The Norristown system may be extended and simplified by centrally locating the supervisor's office, with respect to a group of four or eight wards, and placing it about four feet below the second floor so that a person occupying it may have a view of all the wards on both floors This room, being open to view and occupied by an ordinary officer changes the system from one of espionage to one of close supervision However, the system is so elastic that any degree of oversight—from the closest surveillance to none—may be had at will

Insane inmates of hospitals have their comfort and safety jeopardized at the hands of themselves, their fellows and their attendants These dangers become greater in proportion to the distance the patients are removed from official supervision and control The plans under which institutions for the insane are usually constructed remove a large proportion of the inmates—and often those who particularly require close surveillance—far from the seat of official authority and necessarily prevents that careful supervision which their interests demand Under the modification proposed, the officers in authority are centrally located and have at all times—day and night—opportunity to see every ward and occupant and exercise a close, constant and immediate supervision over attendants and patients, guarding the latter and detecting negligence, unkindness and cruelty upon the part of the former, and protecting them from unjust charges

Radiate Pavilion Wards —To facilitate supervision and night attendance, to render administration more convenient, and to cheapen construction and maintenance, some of the buildings of such an institution may take the form of radiate pavilions

The earliest examples of hospitals upon the radiate system, so far as my information extends, date back to, or beyond the twelfth century, when two were erected in France, one at Angers and the other at Chartres During the war a very large hospital of this class, with a capacity of about thirty-two hundred, was operated at Washington, or Philadelphia, and was considered a model The Marine Hospital at San Francisco, designed by Surgeon General Hamilton, has some wards arranged in this manner The model hospital exhibited at the World's Fair by the United States Government was upon this system The Southern Indiana Hospital for Insane. at Evansville, is a notable example of this form of arrangement of wards for patients of the classes under consideration Of the Evansville Hospital, the Indiana Board of State Charities have this to say—in advance of the opening of the institution—in their report for 1890 —

"The building is on what is known as the radiate plan, which is original as applied to hospitals for the insane Its leading feature is that of bringing each section into equally close connection with the administration department, while still giving the advantages of light and air on all sides of every ward It is expected, with reason, that this plan will be found to facilitate supervision and promote economy in the domestic arrangements, heating, water supply, etc"

After the hospital had been occupied for two years, the same Board says —

"The internal affairs of the hospital have been remarkably free from disturbances of any kind It is possible that this condition of things, which must be recognized as more than ordinarily favorable, is partly due to the construction of the building It was designed, as is well known among persons who study hospital construction, by Dr Rogers, and was the result of the careful study and experience of a very practical man His opinion was that the radiate plan would be moderate in first cost, economical in maintenance and particularly easy of supervision The experience of the last year has certainly borne out all he claimed for it as far as maintenance and supervision go"

Later, and after four years' use of the hospital, Dr Thomas, the medical superintendent, writes me as follows —

"There are three things claimed for the radiate plan of hospital 1, economy in construction, 2, economy in maintenance, 3, convenience of administration The first claim has not been proven in the construction of this building, but in another building extravagance may be avoided The second and third claims are absolutely proven to the most satisfactory degree In my opinion the radiate plan has decided advantages over both the Kirkbride and the cottage plans"

Attendants —The proportion of attendants to patients which is to be allowed will have an important bearing upon the number, size and arrangement of the wards In a large State institution for the insane, where the interests of the tax-payers require the practice of as rigid economy as the proper care of the patients will permit, the wards might well vary in capacity from fifteen to thirty-two and be cared for by two attendants To be sure, in practice, these numbers will vary according to circumstances The practice in different hospitals may be inferred from the following table and statements —

State	Hospital	Patients	Attendants	Proportion			
New York	Poughkeepsie	733	105	1	attendant to	7 0	patients
"	Binghamton	1,136	157	1	"	7 2	"
"	Middletown	709	80	1	"	8 8	"
Indiana	Indianapolis	1,524	138	1	"	11 0	"
"	Richmond	484	39	1	"	11 1	"
"	Logansport	364	32	1	"	11 3	"
Minnesota	Rochester	631	49	1	"	13 0	"
Kansas	Osawatomie	519	39	1	"	13.3	"
Ohio	Toledo	1,174	58	1	"	13 8	"
"	Cleveland	807	52	1	"	15 5	"
"	Athens	813	51	1	"	16 0	"
"	Dayton	732	46	1	"	16 0	"
"	Columbus	1,091	66	1	"	16 5	"
Illinois	Anna	865	75	1	"	11 4	"
"	Elgin	1,115	80	1	"	13 9	"
"	Kankakee	2,090	160	1	"	13 0	"
"	Jacksonville	1,222	80	1	"	15 3	"
Totals and averages		15,958	1,317	1	"	12 2	"

At Dayton there are twenty wards with an average capacity of over thirty-six patients Sixteen of these have two attendants each, and four,—the sick and violent wards on either side—have three each At Logansport there are fourteen wards with an average capacity of twenty-six patients Ten of these have two attendants each, and four have three each At Richmond there are nineteen wards, ranging in capacity from ten to thirty, with two attendants to each ward, except one ward, which has three At Jacksonville there are thirty-six wards, with two attendants to each, except four disturbed wards on which three attendants are employed At Elgin there are two attendants to each ward, except on five, where there are three each At Anna, two wards have one attendant each, twelve wards two attendants each, nine wards three attendants each, and four wards four attendants each At Kankakee four wards have one attendant each, fourteen wards two attendants each, six wards three attendants each, seven wards four attendants each, two wards five attendants each, five wards six attendants each, one ward has seven attendants, and one ward has nine attendants

Night Attendance and Night Supervision —The attendance of insane patients at night—nursing the sick, attending to the wants of the well, soothing the excited, reassuring the fearful, caring for the filthy—and the supervision of night attendance, is a subject of prime importance The prevailing practice varies in different institutions, but that much is left to be desired in this particular is almost universally admitted

In Massachusetts, "at Westborough Hospital and the asylum wards of the State Farm every patient is seen each hour during the night Danvers Hospital has some large associate dormitories which have special night attendants, and these, together with the suicidal wards and infirmaries, make ten wards at the hospital having special night nurses—the largest number of any hospital in the State In some institutions many patients are not seen from the time they are locked in their rooms at night until they are awakened in the morning A homicide at one hospital has illustrated the danger of confining two patients in one room, and there is but one hospital in the State where this is not done

Taunton Hospital alone, under such circumstances leaves the door unlocked and wide open The State Almshouse has in its asylum wards some rooms in which two patients are confined at night but hopes to soon do away with this practice"

The practice in New York is as follows —At Utica with 786 patients, 11 night attendants are employed On the male side three wards—the suicidal, the filthy and the epileptic—each have one *night attendant* On the female side four wards are attended by four nurses All the other patients are looked after by four perambulating attendants At Poughkeepsie 733 patients are cared for at night by 16 attendants On the male side, 380 patients, and on the female side a small number, are constantly in sight At Willard 2 055 patients are given 32 night attendants In the infirmary group 180 males have 4 *nurses* and 260 *females* have 10 nurses In the other groups nine wards have each a night attendant *The remainder* are looked *after* by nine perambulating night attendants who make hourly visits At Buffalo with 509 patients, 9 night attendants 7 of whom are assigned to single wards and 2 making regular rounds At Binghamton the 1,136 patients have 23 night attendants—16 on wards and 7 making rounds At St Lawrence 227 patients had 4 night attendants—2 in each of the two occupied cottages

In Ohio, at Columbus there are 6 night attendants to 1 091 patients, at Cleveland 4 to 807, at Athens 6 to 813, at *Longview 8 to 880, at Dayton 4 to 732 and at Toledo 10 to* 1,174 patients

In Indiana, at Logansport there is one night attendant to each of the ten detached pavilions At Richmond there is one night attendant to each of the twelve cottages

In Illinois the practice, as courteously reported to me by the superintendents of the respective hospitals, is as follows —At Anna there are five general night watches making rounds There are no regular night attendants on wards but *they* are *especially detailed* as *required* Supervisors and medical officers are subject to call, but none are regularly on duty at night Dr Lence, the superintendent, would like to have a regular night attendant for all patients were it not for the expense Dr McKenzie, of Jacksonville, says — Six *night* watches *make hourly rounds* When we have a case of acute sickness we always detail two attendants to watch and if the case does not require special attention the *night* watches give them attention every hour" Dr Loewy, of Elgin, writes — We have fourteen night attendants on the wards On the hospital wards the night attendants act as nurses The night attendants are assigned wards in proportion to the character of the patients in those wards On the hospital wards one night attendant remains constantly on duty one also on the wards containing the disturbed and untidy patients On the better wards two and three wards are assigned to the *night attendant* The head night watchman and the head night watchwoman act as supervisors *on their respective sides* No medical officer is on duty at *night*, although I *must say I am* strongly in favor of it At this hospital I believe every patient has efficient night supervision I increased the night service by adding eight attendants about one and a half years ago All the doors of the patients' rooms are left open at night" Dr Gapen, of Kankakee, reports —"We have a regular night service, the night nurses numbering eighteen, ten being in the male wards and eight in the female wards We also have two *outside watchmen* The supervisors have no responsibilities at night except as they are called, but both they and the medical officers are subject to call at any time I have been steadily increasing the night service and would like to increase it considerably more, and would do so except for the expense I should like to have night service in every ward or cottage, which would mean the increase of this force from eighteen to about thirty"

The proportion of night attendants to patients in several institutions is shown in the following table —

State	Hospital	Patients	Night Attendants	Proportion				
Indiana	Richmond	434	12	1	night	attendant to	36	patients
‘	Logansport	861	10	1			36	‘
New York	Rochester	850	10	1	‘	“	85	‘
‘	St Lawrence	227	5	1	“	“	45	“
“	Poughkeepsie	733	16	1	‘	‘	46	‘
“	Binghamton	1136	23	1	‘	‘	50	“
	Buffalo	509	9	1	“		56	“
	Utica	786	11	1	“	“	71	“
‘	Willard	2055	32	1	‘	“	64	‘
Ohio	Toledo	1174	10	1	“	‘	117	“
“	Athens	813	6	1	‘	“	135	‘
‘	Dayton	732	4	1	‘	“	183	‘
‘	Columbus	1091	6	1		“	185	“
‘	Cleveland	807	4	1	“	‘	201	“
“	Longview	880	8	1	‘	‘	110	
Minnesota	Rochester	631	3	1	“	‘	210	‘
Kansas	Osawatomie	519	2	1	‘	“	259	
Illinois	Elgin	1115	14	1	“	“	79	
‘	Kankakee	2090	18	1	“	“	116	‘
“	Jacksonville	1202	6	1	‘		201	‘
	Anna	865	5	1	“	“	173	“
	Totals and averages	18 523	212				88	“

Classification —In considering the subject of classification of insane patients for institutional care, it should be remembered that a pathologic, and a working classification are not one and the same thing In a good working system of classification for hospital care and treatment, the patients are assigned to those groups and wards in which they can be best observed, treated and cared for, where they are least irritated and where they are brought in contact with congenial associates The system must be very elastic and its various subdivisions can not be rigidly limited or their characteristics clearly defined These facts will account for the apparent looseness with which the skeleton scheme here suggested is outlined It is believed, however, that it fairly represents the system adopted by the superintendents of those hospitals having facilities for such classification It provides for an institution with a capacity for 1,200 patients, and suggestions are made as to the manner in which the future capacity may be increased to 1,580 or 2,500

SYNOPSIS OF CLASSIFICATION

Hospital Group Males and Females

Female	Male	Ward		Female	Male	Patients
Ward 1	A	Reception	For recent admissions	25	25	50
‘ 2	B	Observation	“ suicidal and special cases	25	25	50
3	C	Sick	the sick, injured etc	20	20	40
4	D	Infirmary	‘ infirm and special cases	20	20	40
5	E	Untidy	‘ untidy and filthy	15	15	30
‘ 6	F	Violent	‘ violent and disturbed	15	15	30
“ 6	6			120	120	240
		Convalescent Group, Males and Females				
“ 9	I	Convalescent	For convalescents etc	30	30	60
10	J	Quiet	‘ quiet and refined cases	30	30	60
‘ 11	K	Mild	‘ mild cases	30	30	60
12	L	Mild & quiet	“ and quiet cases	30	30	60
“ 4	4			120	120	240

GENERAL WARDS GROUPS

General Wards Group, No 1 Females			General Wards Group, No 2 Males	
Ward 17	26 patients	For quiet workers	Ward Q	26 patients
18	26	workers	‘ R	26
“ 19	32 “	quiet epileptics etc	“ S	32 ‘
20	32 ‘	‘ workers, etc	‘ T	32 ‘
21	32	restless epileptics, etc	U	32 “
“ 22	32 ‘	‘ ‘ patients	‘ V	32 ‘
23	32 ‘	quiet dements, etc	‘ W	32
‘ 24	32	“ restless ‘	“ X	32
“ 25	32	‘ advanced ‘	‘ Y	32 “
26	32 “	‘ dangerous patients, etc	‘ Z	32 “
27	26	‘ untidy patients etc	‘ AA	26
“ 28	26	‘ disturbed patients	“ BB	26 ‘
‘ 12	360 ‘		“ 12	360

GROUP CLASSIFICATION AND CAPACITY

Hospital Group	120 females	120 males	240 patients
Convalescent Group	120	120 “	240
General Wards Group, No 1	360 ‘		360 “
General Wards Group No 2		360 “	360 ‘
	600	600	1200

Additional Capacity —The wards in the various groups can be so arranged that additional wards may be erected, without disturbing those completed, as follows —

	Female Wards	Patients	Male Wards	Patients	Total Patients
Hospital Group	2	30	2	30	60
Convalescent Group	2	60	2	60	120
General Wards Group, No 1	4	100			100
General Wards Group No 2			4	100	100
	8	190	8	190	380

These additions would raise the total hospital capacity to 1,580 patients By duplicating the general wards groups, as suggested, would increase the capacity to 2,300, and the same reduplication, with the additions, would give a capacity for 2,500 patients In making these additions the proper hospital balance and symmetry is always preserved, and the classification will require only slight modification in detail

Organization —For an institution such as described, having a capacity for 1,200 patients, the following organization, for the immediate care of the insane, is proposed —

	Hosp G	Conv G	G W G No 1	G W G No 2	Total
Medical Superintendent					1
Assistant Physician in-charge	1	1	1	1	4
Internes	2		1	1	4
Apothecary and Pathologist	1				1
Supervisors	2		1	1	4
Attendants	24	12	24	24	84
Night attendants	6	2	4	4	16
Head attendants		2			2
Totals	36	17	31	31	116
Proportion of attendants to patients					1 to 14 2
Proportion of night attendants to patients					1 to 75

It is very important that the questions of total, group and ward capacities, of classification, and of organization, should be considered and provisionally decided upon before even preliminary studies are made for the plans for any proposed hospital Plainly the buildings should be made to accommodate the inmates and to meet their various necessities and not *vice versa*

Plans —The details of plans for hospitals for the insane must vary within such wide limits to meet individual requirements that this subject can only be considered in a very general manner However, there are some features of hospital construction which, if satisfactory results are to be obtained, must be considered as either essential or highly desirable Some of these are briefly enumerated —

1 Every institution erected for the care of the insane should be an improvement upon previous structures It should retain the good features of the older ones and it should possess some new combinations or additions which will render it a decided advance in this field No less ambitious object should be considered

2 The ward should be considered the constructive unit, and each should be complete within itself and adapted to best meet the requirements of its inmates It should be on one floor and should have a separate entrance

3 The several rooms of the ward should be conveniently arranged and they should have an abundance of light and facilities for thorough ventilation

4 The day rooms and dormitories should be entirely distinct and permit airing when not in use

5 As far as practicable, the wards should be so arranged as to permit the supervision of several at the same time The dormitories, especially, should be so arranged that a constant and immediate night service may be given several from a common center, thus promoting efficiency and economy

6 Each of the groups or divisions should contain a sufficient number of wards to permit minute classification Very large wards should be avoided

7 Toilet and bath rooms should be separated from the living rooms by a ventilated lobby All sewerage should be discharged directly outside the walls and there should be no basement pipes

8 Facilities should be provided for quartering assistant physicians separately in the groups under their charge and in the immediate vicinity of their work It is believed, and experience confirms the opinion, that by increasing the responsibilities of assistant medical officers, without diminishing the authority of the superintendent, that their interest will be enhanced and that a high grade of such officers may be obtained and retained, and that the superintendent, relieved of many petty cares and annoyances, will have more time to devote to those larger questions which should be his peculiar province

9 The institution, as a whole and in its parts, should present a pleasing and satisfactory appearance This may be attained in an inexpensive manner It should not be so plain as to be ugly, neither should it have, in any sense, a palatial appearance

10 The construction must be good, safe and substantial, and the cost moderate

Cost —Institutions for the insane have varied, and will continue to vary remarkably in cost, depending largely upon circumstances already mentioned As a matter of true economy and correct principle, flimsy, cheap and shoddy construction should be avoided, on the contrary it should be safe, plain, substantial and durable Such construction is neither cheap nor expensive, and it is certainly not extravagant. The total and per capita cost of several hospitals is here given for comparison —

State	Hospital	Capacity	Total Cost	Per Capita Cost
New York	Buffalo	525	$1,600 000	$8,065
"	Poughkeepsie	830	2,039,000	2 456
Pennsylvania	Danville	750	1,593,000	2,122
Massachusetts	Worcester	650	1,290 000	2 000
"	Danvers	863	1,622,000	1,876
Pennsylvania	Warren	650	1,150,000	1,800
New York	Middletown	675	1,006,000	1,490
Pennsylvania	Harrisburg	650	921 000	1,400
Indiana	Richmond	434	547,000	1,260
"	Evansville	400	504,000	1,260
'	Logansport	364	485,000	1 195
Massachusetts,	Westborough	405	472 000	1,165
New York	Utica	700	815 000	1,164
"	St Lawrence	1,500	1,725 000	1 150
Indiana	Indianapolis	1,500	1,696,000	1,131
Illinois	Elgin	1,100	1 092 000	991
Illinois	Anna	946	1,054,000	*1,110*
Pennsylvania	Dixmont	525	690,000	1,066
Massachusetts	Northampton	470	490,000	923
Pennsylvania	Norristown	1,384	1,146 000	830
Illinois	Kankakee	2 000	1,656,000	828
"	Jacksonville	1,200	846,000	717
Massachusetts	Taunton	698	475,000	702
Totals and averages of 23 hospitals		10,219	$24,882,000	$1,29

In this connection, I wish to enter an emphatic protest against under estimating the cost of adequately providing for the insane in public institutions It has been proposed to establish complete institutions at a cost not to exceed $200 per capita Proper accommodations for these classes can not be furnished for any such sum, and calculations and expectations based upon such estimates are misleading and can only end in disappointment

Insanity is undoubtedly the greatest calamity which can befall a human being From the very nature of his condition he is usually helpless and powerless to do good and is a constant menace to the safety of himself and to others From every point of view, therefore, he deserves, not only our sympathy, but our intelligent benevolence as well

34 Washington Street

ALCOHOL AND ITS EFFECTS

BY W P HOWLE, M D

ORAN, MO

Alcohol pure in full strength is rarely used as an internal remedy In the form of whisky, brandy or wine it is often used In minute doses it *stimulates,* in large doses it intoxicates, in larger doses it may kill Therefore its effects like the effects of anything else depend upon the quantity given, the conditions under which it is taken, etc An ounce of alcohol in a pint of water or syrup makes a stimulant about the same strength as ordinary wine, a tablespoonful of this three times a day before meals improves the appetite and leaves no bad after effects This quantity of alcohol would last a patient nine or ten days, and within a year thirty-six ounces or a little over three pints of alcohol would be used This quantity would not harm the average adult

Alcohol given in teaspoonful doses every hour or two, soon makes a patient drunk, poisons him for the time being, just as large doses of opium or chloral would Stop the dosing and nature restores by throwing off the alcohol Alcohol is not deposited in the tissues as mercury is said to be Confine the worst toper in the land for ten days and no trace of alcohol can be found in his tissues The constant use of large doses of alcohol destroys the user It kills one man by its effects on his stomach, another by its effects on the brain, in others the liver, kidneys or heart may be the organ to give way first In other cases it seems to spend its force on the nervous system It seems to act as a traumatic, wounding here and there as it passes through the system, setting up gastritis, pericarditis, meningitis, etc Why it selects a certain organ in preference to another, I can not explain, but that it does so no one will deny Gastritis caused by alcohol is as amenable to treatment as if caused by another agent, so with any ailment that alcohol may produce Remove the cause and nature soon puts things in order Looked upon as a traumatic, the effects of alcohol are more easily understood

Some of our learned men group the many deleterious effects of alcohol all under one head and call it alcoholism This is a handy way of doing business, but very far from the truth Alcohol may be doing great injury to a man's kidneys, while some other agent is ruining his stomach or brain Removing the alcohol might relieve the kidney trouble, but would not stop the stomach or brain trouble So in examining a drunkard, look for other causes of disease beside alcohol in making your diagnosis and treatment A drunken man often lies out on the cold ground for hours and gets *chilled* The effects of the chill may be quite different from those of an ordinary *jag*, hence a different diagnosis and treatment will be in order

The victim of alcohol is exposed to many dangers outside of the effects of alcohol He is careless, wounds himself, gets wounded, mixes with all classes of people and is therefore more exposed than the sober man All these things must be considered in studying the effects of alcohol In examining the brain of a drunkard can you say this or that change of structure was the result of alcohol, and ignore the fact that this man was a syphilitic, had had many hard blows on his head, had been in prison, had been beaten into insensibility a number of times, had been thrown off of horses, off of wagons, off of trains, down stairs, and many other things incident to drunkenness All these things considered, are you positive that alcohol caused this or that lesion found at your *post mortem*? Let us give the devil his due It is natural when we wish to show up anything as bad, that we paint it in its worst colors Alcohol is bad enough in its effects, but certainly is often accused of crimes to which it was only accessory

I am on record as to how I feel about the user of alcohol, as to whether he is responsible for his acts, and will not discuss that phase of the question now I see others engaged in this who are more competent Alcohol has come to stay as a remedy, it is capable of much good or harm, according as it is rightly or wrongly used

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Blank Applications for membership in the ASSOCIATION at the JOURNAL office

SOCIETY PROCEEDINGS

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill, Nov 9 and 10, 1894

(*Continued from page 989, Vol XXIII*)

On motion of DR R HARVEY REED, the Academy proceeded to the election or rejection of *those present*, to fellowship in the Academy

On motion of DR L E LEMEN, *three negative votes* were declared sufficient to debar an applicant for fellowship in the Academy

The chair appointed Dr L E Lemen, Denver, Colo, Dr F H Peck, Clinton, N Y, tellers The count of the ballots showed all present elected to charter fellowship with the exception of two

[Owing to their mention in the preceding report, we omit the names of those who were *present* and who were elected to fellowship —ED]

Adjourned to meet at 2 p m

SECOND SESSION, FRIDAY, NOVEMBER 9, 2 p m

On motion of DR I H PECK, Clinton, N Y, the Academy proceeded to ballot on the applications of those gentlemen who were *not present*

The tellers reported the following railway surgeons who had made formal written application, as having been elected to fellowship in the Academy

Dr David C Ainey, Ass't Surgeon, D L & W Railway, New Milford, Pa

Dr Wm T Bishop, Medical Examiner, Pennsylvania Railway, Harrisburg, Pa

Dr A B Brumbaugh, Surgeon, Pennsylvania Railway, Huntingdon, Pa

Dr W H Buechner, Surgeon, Erie Railway, Cleveland, Ohio

Dr I I Bancroft, Chief Surgeon, U P D & G Railway, Denver, Colo

Dr W M Bullard, Ass't Surgeon Montana Central Railway, Helena, Mont

Dr G P Conn, Chief Surgeon, C & M Railway, Concord N H

Dr Geo Chaffee Surgeon, L I Railway, Brooklyn, N Y

Dr M Cavana, Surgeon, N Y P & O Railway, Oneida, N Y

Dr Henry W Coe, Surgeon, East Side Railway, Portland, Ore

Dr R H Cowan, Surgeon, N & W Railway, Radford, Va

Dr Leroy Dibble, Surgeon, C R I & P Railway, Kansas City, Mo

Dr Wm T Dalley Ass't Surgeon, U P Railway, Salt Lake City Utah

Dr W L Estes, Chief Surgeon, L V Railway, S Bethlehem, Pa

Dr F B Eaton, Oculist, Oregon Railway and Navigation Co, Portland, Ore

Dr Spencer M Free, Surgeon, B R & P Railway, DuBois, Pa

Dr J H Ford, Chief Surgeon, Big Four Railway, Wabash, Ind

Dr Jno F Fulton, Surgeon, N P Railway, St Paul, Minn

Dr L C Ford, Ass't Surgeon, U P Railway, Lima, Mont.

Dr E Griswold, Surgeon, Erie Railway, Sharon, Pa

Dr J D Griffith, Consulting Surgeon, K C F S & M Railway, Kansas City, Mo

Dr R P R Gordon, Surgeon, G F & C Railway, Great Falls, Mont

Dr Jesse Hawes, Division Surgeon, U P D & G Railway, Greeley, Colo

Dr G W Hogeboom, Chief Surgeon, A T & S F Railway, Topeka, Kansas

Dr R L Harris, Chief Surgeon, S & St A Railway, Oakland, Fla

Dr Lester Keller, Surgeon, C & O Railway, Ironton, Ohio

Dr Samuel Kennedy, Surgeon, Big Four Railway, Shelbyville, Ind

Dr Sherman Leech, Surgeon, B & O Railway, Mt Sterling, Ohio

Dr N Y Leet, Chief Surgeon, D L & W Railway, Scranton, Pa

Dr John McLean, Chief Surgeon, P P C Co, Pullman, Ill

*Dr E A McGannon, Surgeon, G T Railway, Brockville, Ont, Can

Dr S L McCurdy, Surgeon, P C C & St L Railway Pittsburg, Pa

Dr Truman W Miller, Chief Surgeon, C & G T Railway, Chicago, Ill

Dr Henry McHatton, Surgeon, Southern Railway Co, Macon, Ga

Dr W D Middleton, Chief Surgeon, C R I & P Railway, Davenport, Iowa

Dr K A J Mackinzie, Chief Surgeon, O R & N Co, Portland, Ore

Dr Wm Mackie, Surgeon, C M & St P Railway, Milwaukee, Wis

Dr M V B Newcomer, Surgeon, L E & W Railway, Tipton, Ind

Dr R Ortega, Chief Surgeon, M I R R C P, Diaz, Mex

Dr J F Prichard, District Surgeon, C & N W Railway, Manitowoc, Wis

Dr C B Powell, Surgeon, C B & Q Railway, Albia, Iowa

Dr Geo Ross, Chief Surgeon, Southern Railway Co, Richmond, Va

Dr J F Reger, Surgeon, B & O Railway, Littleton, W Va

Dr F A Stillings, Chief Surgeon, C & M Railway, Concord, N H

Dr C M Scott, Ass't Surgeon, U P Railway, Payette, Idaho

Dr S S Shield, Surgeon, N Y L E & W Railway, Carbondale, Pa

Dr F J Schug, Surgeon, U P Railway, Tacoma, Wash

Dr A N Talley, Surgeon, C N & L Railway, Columbia, S C

Dr Wm Thompson, Oculist, Pennsylvania Railway, Philadelphia, Pa

Dr B H Van Kirk, Surgeon, B & O Railway, West Newton, Pa

Dr Geo M Waters, Surgeon, Big Four Railway, Columbus, Ohio

Dr C A Wheaton, Chief Surgeon, St P & D Railway, St Paul, Minn

Dr G A Wall, Eye and Ear Surgeon, A T & S F Railway, Topeka, Kan

Dr W H Elliott, Chief Surgeon, Central Railway of Georgia, Savannah, Ga

On motion of DR F H CALDWELL, the vote on Dr W W Barnett was re-considered, and together with the application of Dr Scott Helm, of Arizona, was referred to the Executive Board

DR G S WORLEY, Chief Surgeon, J St A & I R Railway, St Augustine, Fla, read the following interesting paper on

TRAUMATIC ANEURYSM

Under the name traumatic aneurysm, several distinct affections are usually classified The so-called, diffuse traumatic aneurysm is, strictly speaking, not an aneurysm at all, being merely an accumulation of arterial blood diffused through the tissues of a part, and differing only from a case of ordinary wounded artery, by the absence of communication with the external air Hence the term, traumatic diffuse aneurysm, applied to a wounded or ruptured vessel filling the whole neighborhood with almost limitless (not encapsulated blood) is evidently a misnomer, since some sort of sac is inherent to the idea of aneurysm and what has been so incorrectly named as above, is a wounded or ruptured artery with interstitial or subfascial hemorrhage Since, however, the treatment of this affection is so nearly identical with that of other forms of traumatic aneurysm, it seems consistent to include it in any practical treatise upon this class of injuries

The diagnosis of this condition can usually be made with tolerable facility It is a subcutaneous, soft and fluctuating tumor, often of considerable size, containing extravasated blood, and appearing immediately, or very soon after the wounding of an artery At first the skin covering is not affected but in a few days it often becomes discolored with ecchymosis, caused by the infiltration of blood If the opening in the artery be large and free, the tumor will usually exhibit pulsation, synchronous with the heart beat accompanied by a thrilling, purring or jarring sensation, and frequently by a loud bruit If the artery injured be a very small one, however, or if the opening in the arterial tunics be oblique or of a limited size, or obstructed, there will be no distinct pulsation or bruit In such cases the tumor will be indolent and semi-fluctuating or will perhaps, exhibit an impulse which is communicated to it by the subjacent artery Many cases are reported of diffused traumatic aneurysm in which there was neither pulsation, nor thrill, nor bruit

The size of an aneurysm of this variety will naturally be determined in a great measure by its locality For instance, in localities where the subcutaneous connective tissue is abundant and very loose, it may rapidly attain a considerable size, while in other localities, such as the palm of the hand or the bend of the elbow, in consequence of the strength and resistance of the fascia its growth is correspondingly restricted When the blood is suddenly effused in great quantity, in a traumatic aneurysm of the axillary or femoral region, all the constitutional signs of hemorrhage—pallor, cold sweating, pulselessness and syncope—may arise, and sometimes, in such cases, death from anemic exhaustion, as well as from syncope, may ensue Diffuse traumatic aneurysms require the same treatment as ordinary wounded arteries, Erichson wisely observes "The treatment of these cases must be conducted on precisely the same plan as that of an injured artery communicating with an external wound, the only difference being that, in the case of the diffused traumatic aneurysm, the aperture in the artery opens into an extravasation of blood, instead of upon the surface We must especially be upon our guard, not to be led away by the term 'aneurysm,' that has been applied to these cases, and not to treat such a condition, resulting from wound by the means that we employ with success in the management of that disease"

The safety of the patient, as a rule, depends on exposing the injured artery, and ligaturing it above and below the lesions In deeply seated arteries this is not by any means an easy operation In some cases, compression, with absolute quietude of the injured part, should be tried before resorting to ligation When arteries are ruptured by fragments of bone in simple fractures of the leg or thigh, compression, digital or instrumental, continuous or intermittent, should be applied to the main trunk of the femoral artery This together with the immobility of the injured limb and the moderate degree of pressure on the tumefaction which are furnished by the dressings of the fracture, has often proved much more successful than any other plan of treatment So, also, in cases where the axillary artery is ruptured, for instance, in the act of reducing old dislocations of the shoulder joint, and a diffuse aneurysm forms in consequence thereof, compression should be applied to the subclavian artery over the first rib by means of a door key or other suitable instrument, while the arm is immovably fastened to the chest by a roller

Should compression fail in either class of cases, deligation of the main artery will generally succeed, provided the arm be kept immovably fixed to the chest, or the leg be held motionless by the fracture dressings in the other But, in cases where immobility of the injured part can not be secured, the wounded artery should be laid bare and ligated above and below the injury, with as little delay as possible

When an aneurysm upon which this, which is called the "old operation" is about to be performed is so situated that the circulation in the main artery can not be controlled by digital compression, nor by tourniquet, nor by Esmarch's

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*Since deceased

elastic ligature—as, for example, at the root of the neck—the operation should be begun by making a puncture just large enough to admit one or two fingers of the left hand, which should be quickly thrust into the swelling in such a manner as to plug up the orifice in the integuments, the finger or fingers should then search the bottom of the cavity to find the aperture in the wounded artery, covering the aperture with the finger to prevent any outflow of blood from it, while the tumor is freely laid open, the coagula removed, and the artery ligated on each side of the lesion, as was done by Dr R F Weir, U S Army, during the late civil war

There is another variety of traumatic aneurysm, the pathology of which is the same as that just described, but in which the extravasation is less extensive and in which an adventitious sac has been formed by the agglutination of the surrounding areolar tissue Most or all of the large aneurysms however, could be included in this class on account of the substitution of condensed connective tissue in the wall for the distended coat of the artery The presence of a lining coat similar to the intima of the artery is not conclusive proof of the persistence of the latter, it may be entirely of a new formation The common cause is a penetrating or punctured wound It is said to be caused also, but much less frequently, by overstretching of the artery in the neighborhood of a joint and fracture The continuity of the artery is usually not entirely destroyed, and while some of its blood escapes into the adjoining tissues the remainder continues within it and is distributed through its branches The effused blood is in part absorbed, and in part coagulates, and after a time a distinct sac is formed about it by condensation of the tissues, and it then differs in no essential way from the common encysted form of aneurysm Its symptoms and its subsequent course are then the same, but during the stage of formation of the sac the condition presents symptoms of danger peculiar to itself During the formative stage of the sac, also the injury is peculiarly amenable to treatment by direct pressure, at the seat of injury, and often after the sac has formed, a cure may be effected by the same means This is the one important practical point of difference between traumatic and spontaneous aneurysms

There is another form of circumscribed traumatic aneurysm, which is called "hernial" and which results from the protrusion of the inner coats of the vessel through a wound or laceration of the outer tunics This variety must be extremely rare, its existence indeed, is doubted by many writers The true circumscribed traumatic aneurysm results from a punctured wound of an artery—generally a large one—which has healed, the cicatrix afterward yielding, and a true sac being thus formed from the external coat of the vessel and its sheath The treatment consists in compression or in ligation of the artery at as short a distance as possible above the sac Should however, (in any of these forms of circumscribed traumatic aneurysm) the sac burst, allowing the aneurysm to become diffused, or should suppuration or gangrene appear imminent, the proper course would be to lay open the part freely and apply ligatures above and below, as in the case of the so called diffused aneurysm already described

Sometimes an artery and its contiguous vein are simultaneously wounded, and an abnormal communication between them established This condition may assume two distinct forms, known respectively as aneurysmal varix, and varicose aneurysm Aneurysmal varix consists in a direct communication between an artery and a vein The arterial blood which is projected into the vein at each pulse beat, dilates it more or less extensively, and causes its walls to thicken, the symptoms are the presence of a circumscribed irregular tumefaction, usually small and bluish in color formed by a dilated vein, having a peculiar tremulous motion and emitting a peculiar thrilling, hissing or buzzing sound, which arises from the passage of blood through a small aperture in the artery into the dilated vein

The tumor is usually accompanied by a varicose condition of the neighboring veins It is soft and disappears upon direct pressure It subsides when the limb is elevated so as to favor the return of venous blood toward the heart, and in the same way its pulsation is rendered less distinct But when the limb hangs down, or pressure is applied to the vein on the cardiac side of the tumor, it enlarges and the pulsations are increased

Compressing the vein on the distal side of the tumor does not lessen either its size or its pulsation When, however the artery is compressed on the cardiac side of the tumor, the pulsation immediately ceases and it instantly returns on raising the compression

Varicose aneurysm differs from an aneurysmal varix, in that the arterio venous communication is indirect, through an interposed aneurysmal sac Its symptoms are a combination of those of aneurysmal varix and of ordinary traumatic aneurysm, the tumor, as a rule, gradually enlarges and becomes more solid by the deposition of fibrin, there is a distinct impulse added to the jarring sensation of the aneurysmal varix, and there is an aneurysmal whirr superadded to the rasping sound heard in the former affection The proper treatment of the affection, if the sac is enlarging, consists in laying open the tumor and tying the artery above and below, in doing this, however, it must be borne in mind that the first incision (which opens the dilated vein) merely exposes the external orifice of the sac, and that this must be laid open by a second incision, when the aperture of the artery will be found more deeply seated

The question of tying both artery and vein with double ligatures, is one which should be decided by the surgeon according to the exigency of the case Professor Ashurst, from whom I have borrowed these illustrations respecting the various forms of traumatic aneurysm and their appropriate treatment, has hardly done more than gather up into a whole, the generalizations of his leading scientific and practical contemporaries

In the treatment of traumatic aneurysm, particularly the varieties demanding immediate operative interference, we have a superb illustration of the slang maxim that "nothing succeeds like success"

The indications for treatment and the methods applicable for each individual case must be determined by the surgeon in attendance having in view the recognized and established laws of surgery possessing a thorough knowledge of the anatomy of the parts to be operated upon, their correlative nervous and vascular supply and the general surroundings or the patient, he should be able by proceeding cautiously, step by step to adopt the methods most applicable to the case

The judicious application of pressure to the site of the injury or to the main artery, which is often essential to the successful treatment of this class of injuries, will not infrequently tax the ingenuity of the surgeon to its utmost There can be no specially devised paraphernalia such as tourniquets, compressors, clamps or bandages which will meet the requirements in all or in any considerable number of cases on account of the difficulty in adjusting them properly, so as to control the circulation in the wounded vessel, and at the same time protect the collateral circulation and other important structures from injurious pressure

The more we allow ourselves to depend upon what we consider a complete armamentarium of ingenious, complicated and as a rule, costly appliances the more certain are we to fail in the accomplishment of our designs It is much easier to cut a curved line with a straight knife than a straight line with a curved knife If the surgeon understands the exact condition with which he has to deal his skill and tact should be equal to the emergency, and his success will often be a matter of surprise to himself and the profession over the wonderful and unexpected results accomplished with such clumsy and unscientific appliances I do not mean by this to detract from the value of useful scientific instruments or appliances, or to disparage their use for many of them are as indispensable to the surgeon, as the saw or square is to the carpenter, but the idea that a surgeon is incompetent to treat a complicated injury of this class, or any other class for that matter, simply because he is not in possession of some ingenious instrument or appliance devised by Professor so and so expressly for the purpose, is one of the gigantic errors and stumbling stones in the path of every would be successful surgeon

The place for the armamentarium of the surgeon is in his head and not in his office or instrument case, more especially does this apply to the railway surgeon who, as a rule, has nothing but emergencies to deal with and where it is always the unexpected that happens

The difficulty encountered by the surgeon in cutting down upon, and ligating a wounded artery in a case of diffuse traumatic aneurysm, where its continuity has been entirely destroyed, and where it is necessary to secure both ends of the vessel, or in cases of encysted aneurysm where it is necessary to ligate the artery both on the proximal and distal sides of the sac, and especially in cases of varicose aneurysm, where it may be necessary to tie both the artery and its contiguous or communicating vein separately, both above and below the tumor, are often very great, and must be overcome by the cool deliberate horse sense of the surgeon or his patient will surely suffer the consequences, likewise his own reputation

I deem it unnecessary to add that in all cases where wounds are made for the purpose of ligating vessels, the strictest antiseptic precautions that are possible under the circumstances should be observed The antiseptic catgut ligature or a catgut ligature supposed to be antiseptic, is generally used for tying the vessels, but I prefer a specially prepared silk ligature for the purpose, prepared in the following manner I take a small hank of No 1 or 2 braided silk, and immerse it for several hours in a solution containing two parts of pure carbolic acid, two parts salicylic acid and ten parts of white wax, keeping the solution in a melted state by heat The silk is kept in this solution for five or six hours, when it becomes so thoroughly saturated with the wax that it will remain in the tissues for several days without absorbing moisture or causing irritation Moreover, it is, I suppose, impervious to the various pathogenic germs, which are credited with being the cause of so much trouble in these cases

It has at least the following advantages It is easily applied and when tied with the ordinary reef knot it will not slip It can remain for several days in the tissues without irritating them to any appreciable extent, and the artery can be more securely occluded by it than with any other substance with which I am acquainted, especially the deep arteries which are difficult to reach

The wound of operation should be dressed antiseptically, and redressed as often as necessary, and allowed to heal by granulation, after the ligatures have become detached and the wound is in a healthy condition the granulating surfaces should be approximated by adhesive strips or other suitable means and encouraged to heal by direct union

The complications usually encountered in the treatment of this class of injuries are those naturally incident to obstruction of the circulation The all important indication in cases where the main artery and vein of a limb have been occluded by ligature or other cause is to protect and preserve the collateral circulation

The simultaneous occlusion of the main artery and vein of a limb should not cause mortification, unless the collateral channels are also obstructed These channels may be dangerously obstructed by pressure exerted upon them from careless bandaging, or by the position in which a limb may be placed, as well as by the compression which arises from edematous, inflammatory, and hemorrhagic swelling The aponeurosis or fascia cause strangulation by acting as unyielding bands, and should be freely incised, when necessary, in order to relieve extreme tension and the consequent pressure occasioned thereby

I will not tax your patience further by suggestions upon the operative technique of any of the varieties of traumatic aneurysm The diversity of method among surgeons is as great almost as the number of surgeons in existence The idea is to determine what to do, and the general rules relating to how it should be done, with special reference to the complications liable to ensue, and then do it in your own way

I know it is often beneficial to compare methods and endeavor to eliminate what is unnecessary in technique, and reduce everything connected with operative work to the greatest possible simplicity, but the confusion which would inevitably result from any such comparison in this instance would be greater than the benefits achieved

In the absence of Dr N Y Leet, Chief Surgeon, D L & W Railway, Scranton, Pa, who was to have opened the discussion, the paper was discussed as follows by the different Fellows of the Academy

DISCUSSION

Dr J Howard Williams, of Macon, Ga —My experience with traumatic aneurysm is rather limited Most of my cases have been from gunshot wounds I have never seen a case in railway injury, nor have I ever seen a traumatic aneurysm in the early stages, it has always been a circumscribed traumatic aneurysm Most of them, as I say, were from gunshot wounds, but some of them in railroad work, however The only thing I have ever been able to accomplish in the treatment of them was the ligation of the arteries supplying the aneurysm Compression or any other method of treatment has not succeeded I have tried introducing wire into the sac and the use of electricity, but the only thing that has ever succeeded with me has been ligating the arteries above the sac

Dr C D Evans, of Columbus, Neb —While the paper is certainly a masterpiece in regard to traumatic aneurysm, there is one thing that has not been mentioned and that is the bloodless method of treating traumatic aneurysm I had never thought of it until about three months ago, when I operated on a patient for traumatic aneurysm, and the absence of that point in the paper brings it very forcibly to my mind A doctor from a neighboring town brought me a case of traumatic aneurysm It was a very plain case and very easily diagnosed The man's leg in the upper two-thirds from the knee down was very badly ecchymosed, and a large fluctuating tumor was noticeable about midway or a little below midway on the outer side of the leg To make a long story short, I applied an elastic bandage above the knee, and controlled hemorrhage in that way, making the lower limb bloodless, which to a great many may not seem good surgery I ligated the posterior tibial artery, and that was the end of it The wound healed by first intention I turned out all the clots of blood almost the size of a goose egg I might add also in connection with this case of traumatic aneurysm, that the man was a brickmaker by trade and was wheeling heavy loads of brick The history he gave of the injury was this The rain was going to destroy the brick Several of them were wheeling heavy loads of brick together, and another man ran against his leg with the wheel of his wheelbarrow, and having a very heavy load at the time, his muscles were very tense, and the wheel coming in contact with his leg caused the injury

Dr John E Owens, Chicago—I have not seen an aneurysm for a long time and I do considerable hospital practice I can not account for it occurring in the practice of other men, and yet there is nothing special in my treatment that would prevent aneurysm The last case of traumatic aneurysm that I have in mind was a miniature one resulting from fracture of the tibia, and there was a small pulsating tumor about the size of a filbert I cut down upon the part and could not find anything to compress in the bone Compression did not seem to have any effect, and the pulse was very easily observed I cut down upon it expecting to find some vessel running into the bone around which I could place a ligature and cure it I fished around for a long time, but could not find anything, and becoming somewhat discouraged I took a chisel and scooped everything out of the bone and cured it I think we should use the elastic bandage in cases of traumatic aneurysm with some degree of circumspection It is an obstructive disease of the circulation I refer to aneurysm in which the circulation is more or less disturbed and mortification supervenes very frequently, not only after traumatic aneurysm, *before any operation has been done, but even* after some operation like ligation or pressure If we look at the liability of a case that comes to us in our line of work we can readily see that the elastic bandage is an element in the treatment of traumatic aneurysm which may give us some trouble The elastic bandage may be stretched considerably, and I should feel a little uncomfortable if I used it for fear of causing mortification I would be disposed, I think, speaking in a general way, without going into details to adopt pressure in most cases, and if I did not get very satisfactory results, I should at once cut down upon the vessel where it is possible to do so, and tie above and below I would feel better when I got home after having done this

Dr Reed, of Ohio—I am very glad to see that we have with us an eminent surgeon who has just arrived I know tha he is posted on aneurysm, and I would be glad to hear from him I refer to Dr Bevan, of Chicago

Dr Arthur D Bevan, of Chicago—I, unfortunately, did not hear the paper, but simply had an opportunity of hearing the latter part of Dr Owen's discussion The paper, believe dealt with traumatic aneurysm I have had a very interesting case of this kind within the last few weeks which may be of interest to report A boy of 20, received a stab wound at the apex of Scarpa's triangle He was taken to the Cook County Hospital, and hemorrhage at the time was rather profuse A dressing was applied which controlled the hemorrhage The wound almost healed, and at the end of two weeks he was discharged from the hospital with a small suppurating sinus At the end of three weeks after the receipt of the wound, he was brought to my service at the Presbyterian Hospital with a swelling about the size of a small chicken egg over the seat of the original lesion The signs of traumatic aneurysm were very marked I put him under chloroform, and cut down upon the line of the mass, and I found this interesting condition There was a stab wound anteriorly through both sides of the artery just at the apex of Scarpa's triangle The wound of the anterior surface of the artery was about three quarters of an inch in length and the wound on the posterior surface, about a quarter of an inch in length I opened up the entire field of the lesion the aneurysmal sac which surrounded the artery and vein and deep fascia of the thigh The blood was pumping through the artery, and it is really remarkable that the patient did not have more hemorrhage because the sac seemed to be in direct communication with the fistula although filled up with fibrin The saphenous nerve was to the outer side of the vessel and the femoral vein to the posterior side The operation was that of ligation The patient made a good recovery without any interference with the circulation of the limb Although I did not hear the paper I am rather inclined to think that the idea of treating traumatic aneurysm by pressure was advocated Personally, I do not think of a case in which I would feel warranted in treating traumatic aneurysm by pressure unless at some inoperable point of the anatomy

Dr W H Buechner, of Youngstown, Ohio—I think traumatic aneurysms in consequence of railway injuries are extremely rare I have had a rather extensive railroad practice of twenty seven years and have never met with one As far as the treatment is concerned I think the only rational treatment is to shut the vessel off I have tried compression electricity, etc , and I have never found that either of them amounted to much I have always succeeded by tying the vessels The largest traumatic aneurysm I ever saw was at Professor Volkman's surgical clinic in 1886 It was caused by a stab wound in the brachial artery He tied the vessel on both sides, and I saw the man probably six weeks after with a perfectly useful arm, a good pulse and wrist

Dr Evans—I saw a case of traumatic aneurysm about twenty odd years ago The young man was 28 years of age, of general good health and fairly well nourished He was swinging on a horizontal bar, and within a few hours an aneurysm of the upper third of the brachial artery presented itself The case is hardly in line with the Doctor's paper, yet it was due to traumatic causes The axillary artery was ligated at its upper third, and eight days afterwards secondary hemorrhage came on The patient made a very nice recovery I think the success of this case was due to an idea I got from an old physician who saw the case with me, and that was compression by a bandage over the first rib keeping it there until the wound had entirely healed I think largely the success of the secondary operation of ligation of the axillary artery in the upper third was due to that compression It was not stiff enough to entirely close up the wound

Another case A brakeman who was thrown from a freight car received an injury about the fascia lata There was evidently considerable effusion of blood underneath it, because the swelling of the part was as large as an ordinary orange I laid the parts thoroughly open, expecting to ligate some of the vessels, but in using hot water after the aneurysm was arrested, the wound closed up, and the patient made a good recovery

In another case in which there was a stab wound of the subscapular artery, I laid the parts open extensively and ligated Compression did no good As to the use of the elastic bandage, I must say I feel some doubt as to the propriety of using it, especially when the blood supply is already interfered with Much injury can come not only from what blood vessels remain intact, but also to the nerve tissue itself, and quite serious results might follow

Dr Scott, of Temple, Texas—One or two thoughts come to me since this subject has been opened for discussion that I think might well be brought up In regard to the treatment we must say that it necessarily varies according to the location of the aneurysm Compression may no doubt be very good in some instances, and in others it may be harmful I hardly think of using compression in some cases, particularly elastic compression, such as mentioned But there are certain localities where I am satisfied compression is very good, one in particular which the Doctor has mentioned in injury to the subscapular artery It is hard for one to understand what is to be feared in opening an aneurysm in that location unless he has had previous experience But to one who has opened an aneurysm, perhaps as large as the head in that locality and had the pleasure of hunting around and trying to find the bleeding vessel and some features connected with it, it naturally brings about dread I would say that there are some cases, no doubt, that possibly can be controlled by compression, but I would not think of using it until after the blood clot had been removed I have seen two cases of traumatic aneurysm in or about that locality In one that I was called to see, torsion was used instead of ligation In the other case, which I had a few months ago in Temple, I was uncertain as to whether to search for the vessel or not, and I concluded to simply make an opening, remove the blood clot, and if the bleeding were great, I would go for it In some cases it is safer to depend upon compression, provided compression will do I had some evidence of the location of the injury on account of the contusion of the skin I was satisfied it would be much easier for the patient and less embarrassing for myself to use compression This I did, and controlled the hemorrhage very nicely But there are one or two points, I think, that should receive some attention It seems to me that the uniform opinion expressed here is that when a vessel is exposed it should be tied both above and below the seat of injury and the wound closed up and the aneurysmal tumor divided between the points of ligature It may seem a little previous in suggesting under these circumstances, torsion I would favor it for several reasons, and among them the principal one is this, that when we have large aneurysmal tumors there is abundant reason for absorption, and if any infection whatever takes place during the operation we are very liable to have serious trouble resulting The doctor who read the paper on this subject suggested, I believe, that this particular line of injuries came under the head of emergency work, and if it is emergency work then we are not usually properly prepared with our ligatures, that is the average railway surgeon is not always prepared for *such* emergency work He cannot always depend upon the ligatures he has, and under such circumstances it is much safer to resort to torsion I desire to say that recently I conducted some experiments, the results of which I read before the Texas State Medical Association not long since and expected to have had them published in *The Railway Surgeon* before this, but the paper has not yet appeared My experiments were conducted along the line of torsion I will mention one of them The carotid artery of a dog was ligated, exposed, and a tube attached to it The blood arose (in the dog's carotid artery) to about six feet in this case, and in another about five and one half feet Then the tube was immediately removed, and about three inches of the artery were excised, the proximal end of the artery was twisted, then let go, and it failed to bleed The tubing was then emptied and the blood vessel left attached to the tubing by a small canula The tubing was filled with water, attached, a portion of the artery three inches long was twisted, and water allowed to flow into the vessel to see if it would cause the blood vessel to recoil or leak The tubing was then doubled in length and filled with water rising to a height of eleven feet This is not absolutely correct but approximately so There was double the normal arterial pressure, the water was allowed to flow into this excised and twisted artery, and it did not cause it to open or recoil, demonstrating that a twisted blood vessel, when properly done, would resist double the normal blood pressure That experiment was carried out in several ways Many other experiments were done, and in connection with them, the abdominal aorta was exposed and excised, caught between two forceps and each end excised, when it remained pulsating for quite awhile after the dog was dead I mention this to show that torsion will resist double the normal blood pressure, and we can depend upon it in these cases of aneurysmal tumors more certainly than we can ligation with silk, silkworm gut, chromicized catgut, or anything else I have so far never heard of secondary hemorrhage from it, if it has been properly applied It is not rare to find secondary hemorrhages from various causes where ligatures are applied

Dr Harndon, of Waverly, New York—I have very little to say on this subject I have seen very little of traumatic aneurysm in railway practice I remember a serious case in hospital practice twenty-five years ago, where it wound up with the death of the patient The case did not occur in my practice It may appear somewhat sensational to you, but I believe the day will come when aneurysm will be successfully treated When a blood vessel has been severed or nearly so, so that compression may not destroy the circulation, then I believe as a preventive of amputation that the aneurysm may be removed and the blood vessel restored by dissecting it out, perhaps stretching it somewhat which you know it will bear, and restoring its continuity by placing some tube within its walls carrying on circulation All that remains is to make that experiment It has been tried and has been successful, temporarily restoring the circulation in the limb by placing a tube there which would absorb without any harm being done I believe in this direction lies a successful remedy for traumatic aneurysm

Dr Cole, of Helena, Montana—The author of the paper drew a graphic picture between varicose aneurysms and aneurysmal varix I simply wish to dwell upon one or two points The author spoke of the uniform constant thickening of the walls of the veins in those cases Where that is the rule, I think he will agree with me it is not invariably so, and sometimes they burst through In aneurysmal varix the wall of the veins is thin and leads to disastrous results About three weeks ago a case was brought to my hospital in which there had been a dislocation of the joint My assistant reduced it and overlooked a lateral dislocation of the radius The case occurred about a month prior to my seeing it, and in attempting to replace the dislocation I succeeded in injuring the artery and produced a small traumatic aneurysm which yielded satisfactorily to pressure I do not believe any more in the pressure treatment as a rule, than those who have expressed themselves here to-day, yet I am satisfied in emergency work we cannot be guided by any ironclad rules We cannot lay down a rule that will be invariably followed with success As a rule, the safer plan is ligation of the artery, not necessarily ligation of it on each side of the injury I think that operation and the excision of the vessel between the ligatures should be done with reference to the size of the vessel and the location of the injury I think the writer perhaps was a little misquoted by some one in saying that he invariably recommended ligation of both sides I do not think that statement was made in the paper, nor do I suppose any one would advocate that as an invariable rule

Dr Reed, of Columbus, Ohio—I have been highly entertained by the discussion of this excellent paper It is a subject which, although not of unusual occurrence in railway surgery, is sufficiently frequent to give the surgeon considerable annoyance when it does occur It is this class of cases that will cause you as much annoyance as any other class you may meet, at the same time, in the treatment of traumatic aneurysms we should be governed by two principal points 1, the treatment in the primary stage, and 2, the treatment in the subsequent stage, what we might term the secondary stage of old traumatic aneurysm In the treatment of the primary condition, such as was alluded to by Professor Bevan we can readily understand that it would be necessary as a rule to apply a ligature, torsion, or some method which would get rid of a bleeding aneurysm, the sac of which was made up of the connective tissue, and which would be dangerous to allow to remain I have in mind at present a case similar in character to the one reported by Professor Bevan, in which an injury occurred to the femoral artery, penetrating it from side to side, and also penetrating the vein, producing a punctured wound of both the femoral artery and femoral vein The party was a male clerk on one of the roads running out of Columbus The attending physician thought it was useless to do anything, and allowed the man to go without treatment, excepting to put him on his back and keep him as comfortable as possible To his astonishment he got well with an aneurysm, in fact, he not only got well but lived and worked for fourteen years, with this aneurysm It was situated about the region of Scarpa's triangle Subsequently the man was taken sick and I was called to see him and observed this aneurysm The man subsequently died of another sickness, which enabled us to make a *post-mortem* examination of the aneurysm which was the result of traumatism, and upon examining this we found that the artery had closed in this manner We will suppose a gunshot wound or its equivalent passing through the artery from side to side, but immediately around the artery, the connective tissue formed an aneurysmal sac, just as described by Dr Bevan, until it was perhaps as large as an orange This sac was strong enough to hold the blood and become a part, as it were, of the walls of the artery On the other side was a similar sac which was adherent to the vein The connective tissue was pushed out by the force of the blood against the hole made in the vein and artery and plugged both There was adhesion of the connective tissue to the vein which formed a sac around the artery, making a complete aneurysmal sac, and at the same time closing up the wound so there would be no escape of blood This sac thickened and became so strong as to enable the man to go on with his work without difficulty, so far as the aneurysm was concerned

There is one method of treatment that has not been touched upon here this afternoon, and that is the Macewan needle operation which I think, in aneurysms of this character would be advisable I do not think the needle operation, however, would be advisable in acute aneurysm, or in aneurysm due to a recent injury

I do not think the wire operation of Professor Ransohoff, as advocated by him before the American Medical Association, would be of service I think that method of treatment is absolutely dangerous on account of the liability to the formation of clots and emboli I simply bring up these points as being important, and which have escaped attention, in speaking of the treatment of aneurysm, and more particularly the needle operation I have seen Professor Senn use it successfully in the Presbyterian Hospital, of this city in several cases

(*To be continued*)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS

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THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
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SATURDAY JANUARY 19, 1895

FOOD AND DRUG ADULTERATION

The earliest investigations into this subject conducted under National auspices were those made by PROFESSORS DIEHL and KEDZIE and DR SMART of the Army, for the late NATIONAL BOARD OF HEALTH The field of operations of the last named investigator was quite extensive and was intended to develop the amount and character of food adulteration in this country, with a view of determining whether federal legislation was needful for its suppression The conclusions arrived at were that few of the adulterations then practiced were of a deleterious character, that they affected the pocket of the individual rather than his health, and that the question of legislation should therefore be viewed from the commercial rather than the sanitary standpoint

Since then the Department of Agriculture has taken up the subject and published several reports, one of which, Bulletin No 41, "On the Extent and Character of Food and Drug Adulteration, by ALEX J WEDDERBURN, Special Agent," is now before us Earlier bulletins, particularly Nos 13, 25 and 32, were valuable as giving the methods and results of analyses, but the benefit to be derived from the present issue is not so evident, as it consists mainly of communications from persons assumed from their position or occupation to have knowledge of the subject PROFESSOR DIEHL in his report to the late NATIONAL BOARD OF HEALTH characterized communications of this kind as productive of no satisfactory result, the information furnished being too vague and general in its character That he was correct in this estimate seems proved by the extracts published in Bulletin 41 Their general tenor goes no further than such assertions as, "I am sure," "I have no doubt," "it is my opinion," "I am credibly informed," or "there is no question," "that food adulteration is largely on the increase," etc , although some acknowledge lack of specifications to sustain the charge "While we have no evidence that would be worth anything to you, we do know that there is scarcely an article of food offered by the grocers throughout the country that is not adulterated" One reporter asserts that, "some of our flour is adulterated more or less with a certain kind of earth that comes from the South," and in a list of the ordinary sophistications of foods and drugs arranged alphabetically by the compiler, we find, p 51, under the title *Eggs* "The yolks of eggs are now largely imitated, and it is stated that the whole egg is now successfully duplicated as a result of scientific genius" This *recalls the sensational newspaper articles of* HASSALL's time which led the English cockney to look askance on milk as a possible emulsion of sheep's brains, prepared by the depraved and conscienceless inhabitants of the rural districts Even some parts of MR WEDDERBURN's report are open to a similar criticism He holds that the extent of adulteration of food and drugs is 15 per cent, although only 2 per cent is of a character injurious to health The cost of furnishing food, drink and drugs to 65,000,000 people, at an average weekly rate of $2 per head, amounts to $6,760,000,000, and 2 per cent of this, or $135,200,000 is 'the annual amount paid by the American people for having their lives taken or their health injured" PROFESSOR WILEY, the Chief of the Division of Chemistry, in a prefatory note, disclaims responsibility for the opinions of the correspondents cited in the published selections, as well as for some of the conclusions reached by the compiler, but in looking over the pages of this Bulletin the question constantly in mind is, Why should such statements have been published by a scientific bureau of a Governmental Department? A National food and drug law is sorely needed from the commercial point of view, for the protection of the individual as well as for that of legitimate industry and interstate and foreign commerce, and in some instances it may be urged from the sanitary standpoint, but evidence of the kind now presented is not likely to have much weight in effecting its passage

Let there be created a Department of Public Health!

THE WORK OF THE SECTIONS

At the risk of being somewhat tiresome, we once more venture to invite the attention of the members of the ASSOCIATION to the great advantage of concise writing, and short papers The short paper is invariably read by the majority of the readers, the long paper is retained and perhaps laid on the shelf The brief paper from which every superfluous word has been carefully pruned, is more valuable than a paper involved in expression, and loaded with adjectives

We have no quarrel with the complimentary adjective on its own account, nor with tropes and metaphor, but they have their place That place is not found within the limits of a scientific paper read at a medical society for instruction

We have once before mentioned the admirable work of the Surgical Section last year at San Francisco, but it will do no harm to again mention the fact that Dr Roberts, the Chairman, placed a time limit on the papers to be read at the meeting, and it was so announced in his circular calling for articles The result was an admirable series of papers, fresh and bright with the individual thoughts of the authors themselves In the average society paper, unless specially included in the historical class, there is no need of embodying in it, the entire history of the subject The writing is not intended for the encyclopedia, but for current medical literature, and it will be remembered, as it is clear and distinct If a writer can only rehash the cyclopedia or the text book, he would do well to decline to furnish papers, but every general practitioner of medicine and surgery, and as well every specialist in full practice, has so much information that he can communicate, that fortunately there is no need to weary the Section with page after page of matter already in print, that each may as well read for himself at his leisure It is seldom necessary in our day to cite obsolete authors, except in purely historical studies, and it is questionable if long tables of bibliography should not be altogether omitted These tables no longer prove the erudition of the writer, because they may be easily copied from the *Index Catalog* of the Surgeon General's Library and the *Index Medicus*

The carefully written record of cases with appropriate comment is a style of medical writing that never grows old or obsolete Hippocratic writings, almost the only ones of medicine that have lasted upwards of two thousand years, are full of case records and case histories, not the dry details, but an interesting summary

The advantage to the consultant in having his papers read, is almost certain to cause him to write them short, so that his clientelage will read them This advantage appeals to the consultant in a pecuniary sense, not less than the desire to go to posterity as an original worker and thinker Every reader is not so fond of conciseness as Louis XIV, but many a consultant will be the better off by writing briefly and to the point

An old and instructive story of Louis XIV, who loved conciseness, is to the effect that one day meeting a priest he said "Whence came you—where are you going—what do you want?" The priest said "From Limoges, to Bruges, a benefice" "You shall have it," said the King

The great writers and orators of the past, whose works have lived, have transmitted to us models of conciseness, and they have been so transmitted because of that conciseness Those ambitious to live in future pages, after personality has long past, will eschew long articles, and write with compactness

NOT A "NEW" RULING

Our esteemed contemporary, the *Tri-State Medical Journal*, has been led into an error of statement through the inadvertent "sidehead" of an item in the Journal of October 20, ult The decision of the Illinois State Board of Health, declining to recognize a degree granted by a dental, pharmacal or veterinary school as the equivalent of any part of the minimum requirements fixed by the Board as characterizing a medical college as in good standing, is not "a new ruling," on the contrary, it has been in force during the last two years, having been adopted at the January, 1892, meeting of the Board after a consideration of the evidence presented by the Secretary, Dr Reilly, as to the wide disparity which then existed in the qualifications for the degrees of the various schools

Judging from the following comments of the edito of the *Tri-State*, the objection to the recognition o such degrees is as weighty now as then Dr Moor says "There is a grand opportunity for fraud in thi connection All over the land are 'colleges' an 'universities' teaching dentistry, veterinary scienc and pharmacy as side shows They are insignifican schools for whose existence no good reason has eve been offered To accept the degree from such a schoo of mongrel pedigree as equivalent to one year's stud in a medical college of high grade is wrong, and ca result only in a lowering of the medical profession

But this is by no means to say that there are no many reputable and estimable dental, pharmacal an veterinary schools in existence, the scope and thor oughness of whose instruction might well entitl their graduates to be entered as second-year student in medical colleges of high grade The difficulty lie in the want of uniformity in the requirements fo these degrees, and in the absence of a recognize standard the State Boards probably do wisely in re jecting all Such sweeping rejection should lead t organizations of the better classes of these schoo similar to the American Medical College Associatio membership of which is now generally recognized entitling a college to recognition by State Boards

"A CLERICAL ERROR"

An observant correspondent of the Journal—D W H Sharp, of Parkersburg, West Va,—calls a tention to what he kindly styles "a clerical error in the editorial comment on "Smallpox in 1894," published in the issue of January 5 It was therein attempted to contrast the mortality from smallpox in the ante Jennerian period—96 smallpox deaths out of every 1,000 deaths from all causes—with the actual number of deaths from smallpox in 1894—less than 3 000 out of a total of 1,170,000 deaths from all causes, or about 2 5 smallpox deaths out of every 1,000 deaths from all causes As printed in the Journal the number of deaths from smallpox out of the total deaths was given as 12,300, instead of the correct figures 112,300, thus weakening the arithmetical force of the argument for vaccination by about nine tenths, as Dr Sharp points out

CORRESPONDENCE

"The Practical Importance of Well Established Facts in Therapeutics"

Chicago Jan 15, 1895

To the Editor —Under this head, your correspondent, Dr J H Stallard, gives in our Journal for Jan 5, 1895 an interesting account of his own experience in using alcohol in the form of brandy or whisky, apparently to prove that it is a true tonic and restorative His first point of proof is that after having climbed to a height of 10,000 feet one morning he took a hearty breakfast and after only an hour's rest, began his return when the heat was intense" and over glacier ice "as irregular and uncertain as on board of a ship" What is not singular, the intense heat, the presence of undigested food in his stomach, with the excitement of his unusual walk brought on extreme *irritability* of the pneumogastric and whole vasomotor system of nerves, indicated by excessive *vomiting renewed at every attempt to proceed* In this dilemma, after his digestive organs had been emptied of their contents and the intense heat" of midday had somewhat subsided, he was given a full dose of brandy which, by its *true anesthetic* effect so far lessened the excitability of his cerebral and pneumogastric nerve cells that he was enabled to resume and complete his journey under the impression that he had on 'a pair of brandy boots" I suppose an equivalent dose of ether, chloroform or any other reliable anesthetic would have produced the same effect But is there no difference between an anesthetic and a stimulant or cardiac tonic?

Your correspondent's second point of proof is, the fact that at about the age of 62 years he had a sharp attack of pneumonia, took half ounce doses of brandy or whisky every two hours for nine days and his 'recovery was perfect" But if his recovery *proves that the alcohol* was a "stimulant and heart tonic," what will he say in regard to the case of an eminent physician and medical teacher in one of our Eastern cities, who had a severe attack of pneumonia after he was 60 years of age, was promptly bled freely from a vein in his arm, and treated strictly according to the antiphlogistic system of the first half of the present century, and not only made a perfect recovery, but lived in fair health to the ripe age of 83 years Does it prove that venesection and antimony are stimulants and heart tonics?

The third point of proof implied by the personal history of your correspondent is that he has attained the age of 74 years still in good health, though he has drank wine every day for over fifty years and as little water as possible But on the other hand, I well knew an eminent surgeon and teacher, who was through life a total abstainer from both alcohol and tobacco, and was somewhat of a vegetarian besides, who continued his professional duties until he was 80 years of age and died of old age at 86 years And I could refer to a score of similar cases, some of whom reached their 100 years If Dr Stallard's condition at 74, affords any *proof that wine is a stimulant or heart tonic, the other cases* must prove that simple water is equally efficacious, to say the least But, in truth, such personal histories prove nothing of value, for every well read physician knows that we meet with individual cases of unusual longevity in all classes of society, sometimes in the midst of poverty and unsanitary surroundings with bad food and drink, and sometimes in the mansions of luxury Such histories of individual cases of disease only show that some persons possess a tenacity of life that enables them to recover *in spite* of the most injudicious treatment when sick and attain longevity in spite of both bad habits and bad surroundings To determine the actual effects of alcohol or of any other agent, on the living body requires a widely different line of investigation, at least, something more than the impressions of the patient while under the influence of the anesthetic

Yours truly, N S Davis, M D

Treatment of Typhoid Fever

St Francis, Ark Jan 8, 1895

To the Editor —Having become interested last summer in Dr Woodbridge's articles on the abortive treatment of typhoid fever, I determined to test it at the first opportunity I had seen and assisted in treating quite a number of cases of typhoid fever in the Memphis City Hospital having been an interne there for nearly two years, and have no recollection of any cases being free from fever under three weeks, although treated according to the latest and most approved methods Last fall I treated several cases according to Dr Woodbridge's plan and was exceedingly pleased with the results I did not succeed in cutting the disease so short as Dr Woodbridge did on account of the method being new to me, and for other reasons, only giving prescription No 1 every hour for twenty four hours, then the guaiacol and eucalyptol every three hours for twenty-four hours, thus alternating them as I thought necessary I was surprised to see how uniformly the temperature would drop from the effect of these antiseptics so frequently administered, only to rise again on leaving them off or reducing dose or frequency of administration All of these cases recovered and only one had any bad nervous symptoms Two of them were free of fever on the tenth day of treatment, two on the thirteenth, one on the fifteenth, one on the sixteenth and one on the seventeenth In the case running for sixteen days, all medicine was left off—on the tenth day—by mistake, for eight hours, and the temperature which had fallen to 99 5 rose again and was 104 for two evenings The highest temperature in the two worst cases was 105 5, and in none was it less than 104 for a few evenings, thus showing them to be severe cases One case on the eighth day of the disease had incontinence of feces, the only one having any bad nervous symptoms I was forcibly reminded and impressed with what Dr J B Herrick, of Chicago, said about the effect of antiseptic treatment of typhoid fever In an article headed, 'A Synopsis of nearly a Thousand Cases of Typhoid Fever," he says that there is no doubt but that the antiseptic treatment of typhoid fever prevents the development of nervous symptoms This article was published in our Journal some time ago I regard the treatment as being a vast improvement over any other and a boon to humanity Dr Woodbridge simply carried to the full extent what has been advocated for some years by quite a number of the most prominent men in the profession, and I think it a practical success and not a therapeutic theory There seems to be no doubt but that this frequent administration of antiseptics has an inhibitory influence on the typhoid bacilli, checking their activity, hence preventing the development of toxins, the absorption of which no doubt causes the grave nervousness in so many cases I will say, in conclusion, that in none of these cases did fever exist over twenty-one days after beginning Yours faithfully,

Wm Bayard Shields, M D

Treatment of Typhoid Fever

Oran, Mo, Jan 8, 1895

To the Editor —In our Journal of January 5, I find a report on typhoid fever by Dr Woodbridge and it reminds me of a report I made to the Southeastern Missouri Medical Association a few days before the Doctor made his report at Hot Springs I reported a case of typhoid fever treated with *hyposulphite soda and Fowler's solution*, which gained over a pound a day during treatment He ate his meals regularly, went to the table and to the privy (fifty yards distant from his hotel) his temperature ranging from 102½ to 105 for fifteen days He ate largely of green apples, dates, oranges, lemons, anything he wanted (and could get), never complained of any pain, said he felt firstrate all the time, slept well read the newspapers by day, and was a great Breckinridge man, they both being Kentuckians I am as positive that this man had a genuine case of typhoid fever as I am that I am writing this squib

Now what does my report and that of Dr Woodbridge teach? Nothing, only that typhoid fever does not kill everybody that has it I treated a babe, 2 years old, last week with as typical a case of typhoid fever as those described by Dr Love in this same number of the Journal I gave it calomel and Dovers' powder 1 gr each, every four hours for six days and *Fowler's solution* (Squibb's) ⅛ of a drop every two hours during the same time This case was clear of fever on the tenth day and called for food Can Dr Woodbridge or any other man, do any better for typhoid fever than I did in these two cases? We did not use the same treatment but obtained the same results Therefore the treatment is not entitled to all the credit[1] I gave my doses two hours apart, allowing some time for sleep between doses Any doctor who gives medicine every fifteen minutes for twenty-four hours ought to have mild cases to treat or be dosed himself for the next twenty-four hours

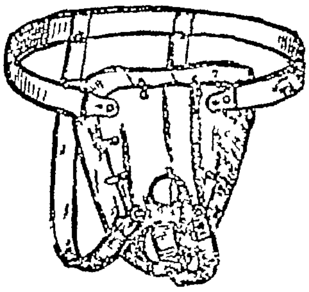
Dr Woodbridge is an enthusiast, and evidently a good man, but there is nothing in his treatment that is new or an improvement on mine Mine will only cure cases that would probably have gotten well without it—typhoid fever comes as near having its own way as any disease we have to treat Dr Woodbridge's treatment is like the homeopaths or the old woman's butter, "If it does no good it will do no harm" Dr Woodbridge is full of enthusiasm, I am full of gall This makes a stand off He tells what he thinks is true, I tell what I think is true Another stand off The reader can take his choice of treatments—not forgetting that typhoid fever kills under all kinds of treatment, and that many cases get well under the most unfavorable conditions W P Howle, M D

A New Truss—The Nagler Shield

San Francisco, Cal, Dec 29, 1894

To the Editor —For the past few months I have been carefully investigating the virtues of a new mechanical device to act as a truss and abdominal supporter wherever such is indicated It absolutely controls all protrusion and reduces to a minimum all discomfort from pressure or friction It consists in its main features of an aluminium shield, carefully molded to the abdominal periphery, and suitably modified to conform to the anatomic requirements of either sex The shield is lined with soft felt, in which pockets are formed, which can be filled with additional packing, should any particular case demand such support

In extreme cases a padded metallic ring, surrounding the penis is fastened underneath on top of arched cut away portion of the shield, and this ring is pressed against that part of the pad where the opening for the scrotum is set in and when so adjusted to the body completely controls all possible prolapsus



The Nagler Shield

The pressure for the truss is created by the fastening of an elastic belt around the body, which is attached to a series of pins placed around the borders of the shield, this can be graded to suit the amount of pressure required An additional mechanism prevents all vertical movement

The complete truss is so simple and yet so effectual that nothing but actual experience of its use will convince those unacquainted with its virtues The lightness of the material —an infantile umbilical truss not weighing over one ounce —and the freedom from friction go far to commend the application of this truss in all reducible hernias or lax abdominal walls

Fred W D'Evelyn, M D

One Hundred Thousand More

Parkersburg, W Va, Jan 9, 1895

To the Editor —In your article on "Smallpox in 1894," in Journal of January 5, occurs a clerical error on page 27, which destroys the force of the argument Should read 112,300 deaths instead of 12,300, making the value of vaccination much less than it is Yours,

W H Sharp, M D

Doctor Dana O Weeks

Marion, Ohio, Jan 12, 1895

To the Editor —A mistake occurs in this week's issue of the Journal, page 62, under Society News Dana O Weeks was elected President of Marion County Medical Society—not Dana O Webb Very truly yours,

O W Weeks, M D

PUBLIC HEALTH

Board of Health of North Carolina —The December *Bulletin* of the North Carolina Board of Health makes announcement of the resignation of the President, Dr H T Bahnson, of Salem, to become a director of the State Hospital at Morganton Dr George G Thomas, of Wilmington, has been elected to succeed to the presidency Dr William P Beall, of Greensborough, has been appointed by the Governor to fill the place in the Board

Windmills for Sanitation —A paper, at the Mexican capital, reports that a new project is on foot for the better sanitation of the sewer system of the City of Mexico It is purposed to construct twenty-five windmills, at a cost of $25,-

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[1] This is a non sequitur, for Fowler's Solution is an excellent germicide, so also is calomel, and sodium hyposulphite —Ed

000, these mills are to propel wheels or paddles within the sewers, and by them the rapidity of the current of the sewage is to be quickened

Disinfection of Fecal Matter —In a paper recently read before the Paris Academy of Sciences, M Vincent claims that the best disinfecting agent for fecal matter and the contents of privies is sulphate of copper, especially if it has been previously acidulated with 10 per 1000 of sulphuric acid For normal stools at a mean temperature of 16 C, disinfection is accomplished in twenty four hours when the proportion of copper sulphate used is equal to 6 kilos per cubic meter, for typhoid stools 5 kilos, and for cholera stools 3 5 kilos per cubic meter are sufficient to destroy the microbes after a contact of twelve hours This difference in the amount required is due to the fact that these pathologic stools are very fluid and contain pathogenic microörganisms which are less resistant than the saprophytes

Bacteria in School Rooms —In a recent communication to the Hamburg Medical Society, M Ruete details the results of his bacteriologic examination of the air of school rooms He made use of Hueppe's method and made his investigations at 2 30 in the afternoons While these were always made under the same conditions the results were very variable He found a minimum of 1 500 bacteria to the cubic meter, a maximum of 3 000 000 and a mean of 268 000 Analogous researches gave Hesse an average of only 9 500 Among the bacteria observed the author calls attention (*Bulletin Medical de Paris*) to a motile bacillus which does not develop on agar but on gelatin plaques gives rise to circular colonies with crenated edges, it can also be cultivated on milk and potato, pure cultures kill mice in twenty four hours and their blood is rapidly fatal to guinea pigs Ruete has been able to extract toxins from the blood of animals thus killed

Prophylaxis of Tuberculosis —In his *Maladies du Soldat*, Professor Marvaud details the prophylactic measures employed in the French army against the spread of tuberculosis These consist of 1, the immediate discharge from service of all men affected with tuberculosis or likely to become so such as those having weakly constitutions, vicious conformation of the chest, insufficient respiratory capacity or hereditary tendency, 2, the prompt discharge of all who become affected during service, 3 preventive hygienic measures, location of barracks away from towns and on elevated and well-ventilated sites, thorough ventilation of squad rooms, and day rooms for the use of soldiers in inclement weather antiseptics in spittoons and paraffined floors to prevent soiling with sputa, the disuse for a certain period of any squad room in which cases have been developed, isolation wards, disinfection, attention to diet the avoidance of sudden transitions from heat to cold, and the use of such exercises in the open air as tend to expand the chest As the death rate from phthisis is 150 per cent greater in the army than in the civil population of corresponding sex and age these prophylactic measures are of prime importance

Michigan State Board of Health —The Michigan State Board of Health held its quarterly meeting at the office of the Secretary, in the Capitol at Lansing, Jan 11, 1895 The meeting was called to order by President Frank Wells, of Lansing Prof Delos Fall, of Albion, Dr Vaughan, of Ann Arbor, Dr Gray of Pontiac, Dr Milner, of Grand Rapids, Dr Granger, of Bay City and Secretary Baker of Lansing, were present The regular business including the auditing of bills and accounts was transacted As special committee to report to the Board the advisability of entering upon the production of immunizing blood serum for the use in the production of immunity from diphtheria, with a view of still further testing, in this country, the efficacy of the method Dr Vaughan, Director of the Michigan State Laboratory of Hygiene, reported that he had thoroughly considered the subject and concluded that at the present time the expense would be too great for the State Board of Health to undertake It was suggested that the Board should take action to protect the people against the use of spurious antitoxins On motion of Dr Granger the Board voted to appoint Prof Victor C Vaughan, M D, Director of the Michigan State Laboratory of Hygiene, a special committee to test the immmunizing properties of samples of antitoxin offered for sale in Michigan

Dr Baker offered the following preambles and resolutions which were unanimously adopted

Whereas, An accurate and prompt registration of the deaths and the causes of deaths in each locality of this State would be of very great practical usefulness to the work of this Board and consequently of great value to the people of Michigan, and

Whereas Under the present law, which has not been amended since 1860, the registration of vital statistics has failed to give accurate results, and to present them sufficiently early to be of the greatest practical sanitary use and public interest, therefore

Resolved, That the Michigan State Board of Health earnestly recommends the enactment of an improved law for the registration and return of deaths (and also of births) which law shall provide for their immediate record, and prompt report to the State Department

Resolved, That a committee be appointed by this Board to present the subject to the Legislature and to urge such action, said committee to act independently or in conjunction with similar committees of the Michigan State Medical Society Michigan Academy of Science, or other organizations, as may be deemed advisable

The subject was referred to the Committee on "Statistics of Mortality and Sickness," with request to act in accordance with the resolutions

Dr Vaughan, the committee, to whom was referred the subject of suspected poisoning by dried beef, at Somerset Center, Hillsdale County, reported that he had examined the dried beef, and found it contained a capsulated bacillus which when injected into white rats and guinea pigs promptly killed them, showing that it was a poisonous germ Dr Vaughan also reported relative to suspected poisoning by pressed chicken at Sturgis During a banquet some two hundred persons were poisoned A sample of the chicken was examined at the State Laboratory of Hygiene, and found to contain a short capsulated bacillus which was poisonous, but not of such a virulent character as the one found in the dried beef It was found, by inoculation, that the germ would kill guinea pigs, but did not kill rats

Dr Milner, of Grand Rapids, Committee on Schools, was directed to prepare a bill, for introduction in the Legislature, which shall regulate the employment of teachers in our public schools, and professional nurses who are affected with any communicable form of tuberculosis Instances have been noted and referred to by Dr Milner at a previous meeting, where it is probable that tuberculosis (consumption) has been contracted from a teacher

On motion, the Board voted to direct the Committee on Legislation, Dr Granger, of Bay City, to confer with members of the State Live Stock Commission and the State Veterinarian, to prepare bills for the improvement of the sanitary laws of the State, relative to live stock, and to look to the introduction and passage of such bills

The proposed bill for a "State Hospital for Consumptives," in connection with the State Laboratory of Hygiene at the University, was read section by section, amended and approved by the Board The objects of the hospital are 1, the proper care and treatment of persons having the disease known as consumption, phthisis, or tuberculosis, in order that the spread of this disease may be lessened, 2, the training and education of persons who shall go out from that hospital, in the best methods for restricting the spread of this dangerous disease, 3, the training, in such methods of medical students who are to practice medicine in Michigan so that they may know how to restrict tuberculous diseases, and 4, that physicians and others may be enabled to study this disease under favorable conditions, thereby obtaining knowledge useful for the prevention of the spread of this disease, and for its ultimate restriction or extinction in Michigan

Dr Baker presented the subject of the need for legislation to prevent the introduction of dangerous diseases into localities in Michigan He stated that there is no specific law on this subject, although he has several times drawn bills and had them introduced in the Legislature for this purpose The present law is not operative until after the local board of health has made and published regulations

By invitation of the Governor, the Board met the Governor in his room, for conference relative to the work of the Board, and a proposed increase in its scope, one question being whether the public interests might be better subserved if the Board were given power to stamp out dangerous diseases in localities where for any reason the local officers were unable or unwilling to take the proper measures

State Sanitary Convention of Pennsylvania —Preliminary announcement The Eighth State Sanitary Convention of Pennsylvania, to be held under the combined auspices of the State Board of Health and Vital Statistics and of the State Associated Health Authorities, will convene in the Supreme Court room, Harrisburg, Jan 30, 1895, at 10 30 A M The reports of the several standing committees of the State Associated Health Authorities -namely, the Committee on Legislation (E S Wagoner of Mechanicsburg, Chairman), the Executive Committee (Dr Benjamin Lee, of Philadelphia Chairman), and the Committee on Publication (M G Lippert, C E, of Phœnixville, Chairman) will be read The following subjects will be presented for discussion

The Sanitary Treatment of Communicable Diseases, Compulsory Vaccination, The Best Means of Educating the General Public in Matters of Practical Hygiene, Typhoid Fever, the Curse of the Rural Districts, The Proper Use of Disinfectants

An evening session will be held in the hall of the House of Representatives, at which subjects more especially connected with sanitary legislation will be presented The Governor of the State, Gen D H Hastings will be the presiding officer The most prominent sanitarians in the State will take part in the discussions While the attendance of local health authorities is expected to be very large, all persons of both sexes interested in the promotion of sanitary reform and organization will be welcome, and are urgently requested to attend

Application for special rates for transportation should be made to the Secretary, 1400 Pine Street, Philadelphia State railroad wished, and enclose stamp for return postage

Benjamin Lee, M D, Chairman Executive Committee
Wm B Atkinson M D, Secretary

ASSOCIATION NEWS

The Baltimore Meeting —The Committee of Arrangements has secured the new Music Hall for the meetings of the Association This hall is just completed, and is one of the most comfortably arranged buildings in the country The general sessions as well as all the section and committee meetings will be held in the same building The rooms are large, comfortable, well lighted and ventilated Access to the hall is convenient by lines of cable and trolley cars from all the hotels and in fact from any part of the city The Committee on Halls has assigned rooms to all the sections Chairmen or secretaries of sections are requested to forward to the Secretary of the Committee of Arrangements titles of papers at an early date so that a preliminary program can be printed in the Journal not later than March 1

George H Rohé, Secretary

Photographs of Members —Members of the Association who send their photographs to the Journal will find their contribution to the collection acknowledged under the heading of Letters Received

SOCIETY NEWS

The Wapello County (Iowa) Medical Society met January 8

The Central District Medical Society of Missouri held its regular meeting at Sedalia, Mo, January 3

Berks County (Pa) Medical Society —The Berks County, Pa, Medical Society held its annual banquet at Mineral Springs, Pa, January 8

Erie County (N Y) Medical Society —At the annual meeting of the Erie County, N Y, Medical Society the following officers were elected President, Fred W Bartlett, Vice-President, Justin G Thompson, Secretary, F C Gram

The Lucas County (Ohio) Medical Society held its annual meeting in Toledo January 2 The following officers were elected for the ensuing year President, John A Wright, Vice-President, J D Howe, Secretary, F O Hunt

Schuylkill County (Pa) Medical Society —The Schuylkill County (Pa) Medical Society held its annual meeting in Pottsville January 8 The following officers were elected President, C W Bankes, Middleport, Vice President, A P Carr, St Clair, Secretary and Treasurer, George Little, Tamaqua

Kalamazoo (Mich) Medical Society —The Kalamazoo, Mich Medical Society held its annual meeting January 8 The following officers were elected President, O A Lacrones, First Vice-President, C Van Zwaluwenburg, Second Vice-President O F Burroughs, Secretary, J W Bosman

Milwaukee (Wis) Medical Society —The Milwaukee, Wis, Medical Society held its annual meeting in that city January 8 The following officers were elected for the ensuing year President, W H Washburn, First Vice-President, G J Kaumheimer, Second Vice-President, Lorenzo Boorse, Secretary, H B Hitz

Kansas City Academy of Medicine —The Kansas City Academ of Medicine held a regular meeting January 5 The following officers were elected for the ensuing year President John Punton, Vice President, V W Gayle, Secretary, J W Kyger, Treasurer, C L Hall The annual banquet wa held January 8, and the event was a brilliant one

Iowa State Medical Society —The forty fourth annual meeting of the Iowa State Medical Society will be held April 1 18 and 19, in Creston, Iowa, and the forty-sixth annual meeting of the American Medical Association will be held Ma 7, in Baltimore, Md and it is hoped all will avail themselve of the benefits of these meetings and be present at both them The following are the chairmen of the different se tions for the next meeting of the State Society Medicin F M Hiatt, Red Oak, Surgery, J M Emmert, Atlantic Obstetrics and Gynecology, H L Getz, Marshalltown Ophthalmology and Otology, H B Young, Burlington Materia Medica, J R Guthrie, Dubuque, State Medicin and Hygiene, J S Braunsworth, Muscatine, Mental an Nervous System, F S Thomas, Council Bluffs

The announcement-program will be mailed about April

J W Cokenower, M D, Secretary

NECROLOGY

John Mills Browne, ex Surgeon General, U S Navy Born in Hinsdale, N H, May 10, 1831 Graduated at the Medical Department of Harvard University in March, 1852 Appointed from New Hampshire, March 25, 1853, entered the service as Assistant Surgeon, and performed first duty on board the store ship, *Warren* Lieutenant commanding, Fabius Stanly, at Saucelito, opposite San Francisco, in September, 1854, the *Warren*, Lieutenant commanding, D McDougall, proceeded to Mare Island, and became the temporary residence of Commander D G Farragut, the inaugurator and first Commandant of the Navy Yard, Medical Officer of the Navy Yard until May 10, 1855, then duty on board the coast survey steamer, *Active*, Lieutenant commanding, James Alden, attached to *Active* until November, 1857, *Active* employed in surveying the coast and harbors of California, Oregon and Washington Territories, in the winter of 1855–56, with the steamer *Massachusetts* and the sloop *Decatur*, *Active* engaged in the Indian war at Puget Sound, and in the summer of 1857, in connection with H B M sloop *Satellite*, occupied in settling the northwest boundary Passed Assistant Surgeon, May 12 1858, brig *Dolphin*, Lieutenant commanding John N Maffit, June 1, 1858 Home Squadron off Cape Verde, Cuba *Dolphin* captured the brig *Echo* with over three hundred slaves destined for the Cuban market, *Echo* sent to Charleston, S C, subsequently the surviving negroes were taken to Liberia in the frigate *Niagara*, Oct 1, 1858, steamer *Atlanta* Commander D B Ridgly, Paraguay expedition, Dec 25, 1858, Hospital Norfolk, Surgeon Ninian Pinkney, May 9, 1859 sloop *Constellation* Flag Officer Wm Inman, Fleet Surgeon, Thos D Smith, flag ship of African Squadron visited Madeira, Cape de Verde Islands, St Helena, Liberia, St Paulo de Loanda and other ports and islands along the west coast of Africa, Sept 25, 1860, at night off Congo River, *Constellation* captured the bark *Cora*, with 705 slaves, who were sent to Liberia, commissioned as Surgeon, June 19, 1861, Dec 23, 1861, steam sloop *Kearsarge*, Commander Charles W Pickering, special duty coast of Europe, visited Cadiz, Algeciras, Gibraltar, Tangier, Ferral, Brest, Cherbourg Boulogne *sur-mer* Calais, Ostend, Flushing, London, Margate, Ramsgate Deal Dover, Folkstone Hastings, Queenstown Azores, Madeira, Teneriffe, off Cherbourg, June 19, 1864, *Kearsarge*, Commander John A Winslow, after an engagement of one hour and two minutes destroyed the rebel steamer *Alabama*, *Kearsarge* left Europe in August, 1864, for the Azores, and from thence proceeded to Fernando de Noroha, and Las Rocas, off Brazil, in search of the rebel steamer *Florida*, returned to Barbadoes, thence to St Thomas, and arrived at Boston Nov 9, 1864, Dec 23, 1864, temporary duty Navy Yard, New York, April 29, 1865, Navy Yard, Mare Island, special duty to superintend the erection of the Naval Hospital at Mare Island, duty in charge of the hospital at Mare Island 1870–71, Fleet Surgeon Pacific fleet 1871–72 Commissioned as Medical Inspector Dec 1, 1871, Navy Yard and Naval Hospital, Mare Island, 1873–74, Fleet Surgeon, North Pacific station, 1874–76, Naval Hospital, Mare Island, 1876–80 Commissioned as Medical Director, Oct 6, 1878 President of Medical Examining Board, Washington, D C, 1880–82, member of Board of Visitors, Naval Academy, Annapolis, Md, 1881 naval representative at the International Medical Congress London, England, 1881, duty in charge of Museum of Hygiene, 1882–85, duty on Board of Naval Regulations, 1882, member of National Board of Health 1883, naval representative at the International Medical Congress, Copenhagen, 1884, Member of Retiring Board, 1885–88 Chief of Bureau of Medicine and Surgery, with title of Surgeon General of the Navy, from April 2, 1888, until date of retirement, May 10, 1893 (Official record in Naval Register) Died Dec 7, 1894

John Mills Browne M D

William Detmold, M D, one of the senior surgeons of New York City, and a founder and first President of the New York County Medical Association in 1884, died Dec 26, 1894 He was born in Hanover, Dec 27, 1808 After taking his medical degree at Gottingen in 1830, he was for a time in the surgical service of the Army He took up his permanent residence in New York in 1837, and very soon thereafter became identified with the College of Physicians and Surgeons, of this school he was Emeritus Professor of Clinical and Military Surgery at the time of his decease This embraces a period of more than half a century He was one of the founders of orthopedics in this country, his first clinic dating as early as 1841 At the opening of the Civil War (1862), he was made full Professor of Military Surgery and Hygiene His services at this time were much in request in the organization of medical corps and hospitals, especially those that were called into being in the vicinity of New York City, for the use of the State volunteers He was an infrequent writer on medical topics, but his little book on club foot and some analogous subjects is one of the mile stones of the pre Listerian epochs of orthopedy He was an ex-Vice President of the Academy of Medicine and an ex President of the Medical Relief Fund for Widows and Orphans He had been a Consulting Surgeon to the Presbyterian Hospital General paralysis was assigned as the cause of his last illness and death

Henry Goldthwaite, M D, of New York City, died January 4, aged 53 years He was a native of Mobile, the son of the late Judge of the Supreme Court of Alabama He was graduated from Princeton College in the class of 1860 He became a Confederate staff officer, attaining the rank of Major After the war, he was in business in his native city, but he adopted medicine as his preferable pursuit He graduated from Bellevue Hospital Medical College in 1876, and was next an interne at the Hospital and an instructor in the College In 1878 he became one of the physicians resident at the Fifth Avenue Hotel, and it was there that he died somewhat suddenly from cerebral hemorrhage, on the date above named He was twice married He was a member of several local societies and one of the visiting staff of the City or Charity Hospital

Charles Wright, M D, of Carroll, Ala, January 3 —— Jonathan Bemis, M D, of Cambridge, Mass, January 6, aged 84 —— E H Porter, M D, of Columbia, Mo, January 4 —— William Mercer, of Princeton, Ill January 4, aged 80 —— F A White, of Philadelphia, Pa, January 8, aged 38 —— Stephen W Root, of New York, January 9, aged 51 —— Joseph S Fitzgerald, of New York, January 8 —— G C Upson, of Cuyahoga Falls, Ohio, January 7, aged 78 —— J D Egelston of Olathe, Kan, January 11, aged 67 —— A C Hallam, of Brooklyn, N Y, January 9, aged 49

M S Medical Coll

BOOK NOTICES

Travaux d'Electrotherapie Gynecologique, Etc, Etc By G APOSTOLI Paris 1894

The volume before us is a collection of articles written on the subject of electro-therapeutics in gynecology, and from the prospectus we learn that it will be published semi-annually The editor has very industriously sought all foreign publications for writings on his specialty and has in most cases translated them bodily into French and the result is this volume of 720 pages The Americans quoted are Drs Rockwell, Goelet, McGinnis, Buckmaster, A Lapthorne Smith, F H Martin, Massey, Skene, Mundé and J H Kellogg Those who wish to keep pace with the entire literature of this subject will find this volume a necessity

Sexual Neurasthenia (Nervous Exhaustion), Its Hygiene, Causes, Symptoms and Treatment, with a chapter on diet for the nervous By GEORGE M BEARD, A M, M D, Edited with notes and additions by A D ROCKWELL, A.M, M D Fourth edition New York E B Treat 1895 Price $2 75

This well-known book has, as will be seen, passed to a fourth edition A chapter on Sexual Erethism has been inserted in this edition in order to keep pace with the growing literature on the subject In the formulas, Mr Rockwell has translated the old English weights and measures into the decimal system, instead of writing them in that system *de novo* The result is that the decimals are too fractional to conform to any known prescription in the metric system The old system is also given The work is an excellent one, and well deserves the compliment of a fourth edition

Twenty-fifth Annual Report of the State Board of Health of Massachusetts Boston 1894

Bearing in mind the noble record made by this Board in the last quarter of a century, and the high class of its annual reports, we naturally turn to the new volume to see if it keeps up the standard established by its predecessors, and are pleased to see that the mantle of Bowditch has fallen on worthy shoulders in the person of Chairman Wolcott The present volume includes the general report, and a series of special reports on the subject of Water Supply and Sewerage, Weekly Mortality Reports of Cities and Towns, Reports of Infectious Diseases, Reports of Food and Drug Inspection, Isolation Hospitals for Infectious Diseases, and Report on the Health of Towns

Apart from the chemists' reports, in themselves extremely valuable as showing careful and painstaking work, we must notice the article of the Secretary, S W Abbott, M D, on Isolation Hospitals After a review of the origin of this special class of hospitals, the author mentions the isolation hospitals of the principal cities of Europe, and gives plans of some of them This will be found invaluable for health officers desiring to construct similar hospitals

Saint Thomas' Hospital Reports New series Edited by DR T D ACLAND and MR BERNARD PITTS Vol xxii, pp 614 London J and A Churchill 1894

This volume contains the statistical reports of this famous hospital, for 1892 and 1893, and its publication was this year delayed that the calendar and prospectus for 1894 might be included The papers in the volume are generally excellent, and well reflect the existing state of British medicine and surgery They are as follows

i, The Treatment of Hallux Valgus by H H Clutton, ii, Case of Separation of Lower Epiphysis of Femur—Gangrene, Amputation, Pyemia, Death, by H H Clutton, iii, Traumatic Separation of the Upper End of the Femur in Early Life, by William Henry Battle, iv, Acute Osteo-periostitis of the Femora, etc, by William Henry Battle, v, Acute Bronchiectasis, by Seymour J Sharkey, vi, Pregnancy in a Uni-cervical Bicornate Uterus, by W W H Tate, vii, Sterilized Surgical Dressings and Sterilized Water, by Edmund White, viii, A Case of Gangrene of Foot with Sugar in the Urine, Amputation, by Cuthbert S Wallace, ix, The Removal of the Uterine Appendages for Uterine Myoma, with an account of Twenty Cases, by Chas J Cullingworth The remainder of the volume is taken up with the reports of the several departments of the hospital for the years 1892 and 1893 There is a very interesting biography of the late George Rainey who was connected with Saint Thomas Medical School for nearly sixty years, and for nearly forty years as a teacher of anatomy, and demonstrator of the microscope

MISCELLANY

Dr Charles G Carleton, of Lawrence, Mass, has been appointed City Physician of that place, *vice* Dr How resigned

Nomenclature of Diseases —It is stated on the authority o Mr W Fleming, that the new edition of the "Nomenclatur of Diseases of the Royal College of Physicians of London, will not be ready for some months The revision of 188 was published in 1885, and that of 1890, according to th foregoing statement will probably be ready in 1895

Injection of Air in Tuberculous Peritonitis —Folet, of Lille at the Académie reports a case of tuberculous peritoniti in which after withdrawal of six liters of fluid, he injecte three liters of air in the abdominal cavity The fluid wa not reproduced eight months afterward and the woman' health remained excellent

Another "Citizen's Complaint" Impending —The following i from *Puck*

"Across the Court —*Mrs Keegan* 'Fer hivin's sake, Mrs Casey, phwut is thot turrible shmellin' smoke?' *Mrs Casey* It's Mrs Dooney below wid phwut she calls dishinfectants *Mrs Keegan* 'Well, will yez plaze tell her from me thot i she don't shtop it Oi'll complain to the Board of Hilth?'"

New Journals —*The Journal of Medicine and Science*, pul lished in Portland, Maine, starts its second number wit the announcement that its "circulation" is 30,000 W trust that the affidavit editor may always be able to retai so handsome a circulation

The Dental Digest is on our table, an excellent journa handsomely printed and carefully prepared

The Vermiform Appendix in Hernia —Kraft, (*Nordiskt Médi Arch* No 23, 1894) reports seven cases of hernia, in thre cases the sac contained the appendix alone, and in th remaining four cases he found the appendix with a knuck of intestine In practice when the appendix was neithe gangrenous, nor perforated he reduced it, but in case gangrene or perforation, resection was indicated —*Revue I ternationale de Medecine et de Chirurgie pratiques*

Students in German Universities —Ascherson's *Universita Kalendar* gives the following figures for the twenty Germa universities in 1894 The total number of students is 28,44 8,684 of whom study medicine, 7,776 law, 3,336 Protesta theology, and 1,469 Catholic theology Berlin heads the li with 4,265 students, then comes Munich with 3,744, Leips with 2,764, Halle, 2,154, Tubingen, 1,477, and so on Ro toch is the lowest, with 476

Treatment of Synovial Ganglion —Professor Duplay in a rece article (*Arch General de Méd* December, 1894), recommen the return to the former practice of iodin injection Th skin is to be well washed and sterilized The hypodermat needle is then introduced into the skin and made to gli over the swelling a little, so that the opening into the sac and through the skin may not be opposite From five to ten drops of the tincture of iodin are then injected, the amount varying according to the size of the ganglion, an aseptic cotton pad is applied over the puncture, which sometimes requires to be repeated M Duplay has had no failure, but some cases required more than one operation

Mentholated Oil—One of the remedies employed by Dr Louis Martin, chief assistant to Dr Roux, is this oil It is referred to in a recent number of the *Bulletin Medical*, in a lecture delivered at Pasteur Institute Its use is to avert broncho pneumonia in cases under treatment by the serum, and one cubic centimeter is given once a day The oil is composed of 4 grammes of menthol to 100 grammes of the oil of sweet almonds As to the local treatment of cases of diphtheria, the lecturer states that caustic treatments are to be excluded Phenic acid and sublimate solutions are now little used Dr Roux counsels the washing three times a day with solutions of boric acid or a solution of Labarraque's liquor fifty grammes in one liter of boiled water The feeding of children, under the serum treatment, should not be changed They should be well supported, whenever the existence of serious albuminuria does not compel the employment of an exclusive milk diet

Cocain in Rigidity of the Uterine Neck—Farrar (Obstetrical Society of London November, 1894) has successfully employed cocain in two cases of rigidity of the cervix in the course of labor In the first case, a primipara, the labor had been retarded more than forty eight hours Chloroform had been administered without relief, intending to incise the neck, he applied a compress saturated with a 10 per cent solution of cocain and retained it for three minutes On examination he found that even in this short space of time dilatation had progressed with rapidity, and the case terminated normally The second case was a primipara 40 years of age, and there was a rigidity of the cervix which had resisted the pains for three days and as well all the means of non-operative dilatation The application of a 10 per cent solution of cocain caused a rapid dilatation

Pigmentation from Arsenic—Richardiere recently presented a patient at the Hospitals Medical Society of Paris (*Ann de Derm et de Syph*)—a female aged 19, suffering from adenia—in whom injections of 42 drops of Fowler's solution and the internal administration of 500 drops of the solution produced a general pigmentation resembling the skin of a mulattress and almost black in the axillæ, neck and fingers After ceasing the use of the arsenic the pigmentation decreased and was followed by desquamation This pigmentary deposit was the principal sign of arsenicism, which was manifested otherwise only by a slight diarrhea and some paresis of the right leg M Rendu asked whether the generalized character of the pigmentation did not point to tuberculosis of the supra renal capsules

Uses of Erysipelas Serum—Emmerich has recently experimented with serum from erysipelatous animals as to its effect upon anthrax After infecting rabbits with the latter disease he injected up to 20 cc of the serum either into the peritoneal cavities or under the skin, these injections were repeated twice daily for two or three days No anthrax developed The author thinks (*Gaz Med de Liege*), that we may possibly employ the serum with success in the treatment of tuberculosis He inoculated rabbits by introducing the tubercle bacilli into the anterior chamber of the eye, and having found the tubercles there developing he then infected the animal with the erysipelas microbes, whereupon the tuberculous process was slowed but not stopped Emmerich concludes that his experiments warrant further researches into the uses of erysipelas serum, not in human tuberculosis alone but also in other infectious diseases, such as glanders syphilis, tetanus, etc

Pyoktannin in Blennorrhagia—According to *Vratch*, No 11, 1895, Posselt has employed pyoktannin in eighty-five cases of blennorrhagia, thirteen of which were subacute, twelve chronic and sixty acute, also two cases of blennorrheal conjunctivitis and two cases of blennorrheal cystitis The intra urethral injections were made from two to four times a day with solutions of from 1 to 1000, to 1 to 2000 The patient was directed to retain the injected liquid one minute In sixty-eight patients the injections were painless, in three there were intense pains but inconstant, and in one the author was obliged to relinquish the treatment on account of the pain After a lengthy account of the microscopic appearances of the pus and the gonococci, the author concludes, by stating that pyoktannin is a good remedy in the treatment of blennorrhagia, but it must be used with care, on account of its irritant action, and care taken that the solution is not too concentrated, 1 to 1000 to 1 to 2000 should be the maximum, but that which renders pyoktannin little appropriate in private practice is the violet stain which it gives the hands, and the under linen of the patient

Local Application of Carbolic Acid—Cerné, of Rouen, reports the two following cases in the *Normandie Medicale* A diabetic male had an insignificant wound of the leg dressed with a compress wet with a weak carbolic acid solution, this produced gangrene which increased in size daily The patient went to an empiric who replaced the carbolic acid by an ointment of some sort and the gangrene was arrested The second case was that of an alcoholic, with sclerosis and perforating ulcer of the left great toe, this was dressed with a carbolic solution of 1 to 40 on the second morning all the end of the toe was gangrenous These cases show the dangers which may result from the local application of carbolic acid especially if made by the patient himself—that is to say, without precaution or measure Caution should be exercised in the use of carbolic dressings, the danger is greater when, from any cause the tissues have less than their normal vitality

A Deserved Tribute—Treating of the abridgment of *Observations upon the Medical Department of the British Army*, made by Brevet Lieutenant-Colonel Alfred A Woodhull, U S A Medical Corps, the reviewer of the *British Medical Journal* says, "the abridgment is such an admirable summary of the organization and regulations of our [the British] army medical department that it might be perused with advantage by the medical officers themselves, every point, almost, is reviewed with surprising accuracy and any misstatements are of the most trifling character We have always been struck with the general excellence of reports issued by the War Department of the United States, both as regards matter and form It would seem in America that when a competent officer is selected to report he is allowed a free hand as to scope, style and length, his work is apparently not mutilated by superior intelligence at headquarters, nor cut down by a stingy printing office" Surgeon Woodhull himself is spoken of in an equally laudatory manner, his competency to criticise is fully acknowledged and frequent citations warrant the reviewer in closing with the remark that, 'From all of which it will be seen that our American cousin is a just as well as a frank critic in army medical matters"

Alterations of the Urine in Malaria—At a recent séance of the Vienna Imperio Royal Medical Society, reported in *La Semaine Medicale*, von Limbeck related the results of researches which he had made in two cases of malaria In these cases the elimination of nitrogen was in relation with the elevation of temperature the proportion of urea and the total quantity of nitrogen were not modified, the elimination of ammonia also was in direct relation to the elevation of temperature, the quantity of urea was augmented but the relation between the ammonia and the total quantity of nitrogen was normal During the febrile accession the quantity of phosphates was found diminished, they did not increase until after the access Freund had also found a retention of phosphates during the febrile stage in some other infectious diseases The elimination of chlorids, contrary to what occurs in other infectious diseases, is enormously increased during the malarial paroxysms, this fact is so characteristic that the author thinks it may be accorded a real diagnostic value

Columbia College —At a meeting of the trustees of Columbia College, at New York, January 7, it was announced that two large gifts had been made to the College of Physicians and Surgeons One is of $350,000 from Cornelius, William K, Frederick W, and George W Vanderbilt, who contributed an equal amount each The other is from William D Sloan, who will erect a new maternity hospital to connect with the present one, the whole to be known as the Sloan Maternity Hospital The estimated cost is $200,000

Hospital Notes

Free Hospital for Women —The new Free Hospital for Women at Boston, Mass, was formally opened January 1 There are twenty patients in the institution

St Joseph's Hospital —An addition to St Joseph's Hospital at Bloomington, Ill, is contemplated, the estimated cost is $1,000 '

A New Hospital for Insane —Estimates have been prepared for the rebuilding of the hospital for the insane at Anna, Ill, which was recently destroyed by fire The Legislature will be asked to appropriate $200,000 for that purpose

Dr R D Burns, of Allegheny, Pa, has been elected the resident physician at the Allegheny General Hospital, *vice*, Dr Shaler resigned

The Lane Hospital at San Francisco, Cal, was formally opened January 8 The building will accommodate 100 patients and cost $230,000

Grady Hospital —The annual report of the Grady Hospital at Atlanta, Ga, shows that 1 640 patients have been treated at that institution during the past year

The New Mercy Hospital at Des Moines, Iowa, will be ready for occupancy February 1 The total cost will be about $20,000

New York Post-Graduate Medical School and Hospital —The tenth annual report of the New York Post-Graduate Medical School and Hospital shows that 17,833 patients have been treated in the dispensary and 1,300 in the wards

Children's Hospital, Buffalo, N Y —At a meeting of the managers of Children's Hospital at Buffalo, N Y, January 3, it was decided to appropriate the $1,200 raised at the Christmas sale for the endowment of four free beds

For a Consumptive Hospital —It is reported that the estate of Gen Benjamin F Butler has decided to turn over Old Fort Union in New Mexico for the use of consumptives The property contains about 67,000 acres

St Timothy's Hospital Philadelphia —Under the will of Henry Klein, M D, of Philadelphia, liberal gifts have been left to three religious bodies having their headquarters in that city, the residue of his estate is to go to Saint Timothy's Hospital

Massachusetts Hospital for Insane —The State Asylum at Waverly, Mass, has received a much-needed remembrance under the will of the late Thomas E Proctor, of Boston The managers of the General Hospital are to be made the custodians of $100,000, that will be in trust until it shall with accrued interest reach the value of $400,000 Then the amount may be used in the construction of buildings, at the new grounds of the McLean Asylum for the Insane at the place named above, to be devoted to that branch of the General Hospital

Louisville Notes

Dr C J Walton —Dr Clairborne J Walton, of Hodgenville, Ky, is mentioned as a candidate before the Republican Convention for nomination as State Auditor Dr Walton was a Brigade Surgeon in the Union Army under Gen S W Price, and during Harrison's administration was Pension Agent

Dr James Weir, Jr —Dr James Weir, Jr, of Owensboro, has been tendered the chair of Nervous and Mental Diseases in the Gross Medical College of Denver, Colo, by the Dean of that College, Dr F H Hawkins The Doctor has not as yet accepted the call

Pure Food Exposition —This Exposition has again been postponed, at the request of the grocers interested Many manufacturers of food products who were unable to get their exhibits ready during the holiday season, have consented to make their displays if the exposition is postponed The date now set is the first or second week in March, and it will continue three weeks

Blood Poisoning —It is greatly to be regretted that so many surgeons fall a martyr to their calling, but it seems to be an almost daily occurrence for trouble of more or less serious character to fall to the lot of the surgeon Dr Ap Morgan Cartledge, of this city, has been confined to his bed for some weeks the result of a wound received while operating upon a septic case of appendicitis He is much improved at the present writing though still confined to his room Dr Arch Dixon, Jr, of Henderson, is also the victim of a similar accident, having been quite ill in Frankfort whether he had gone soon after, as the result of inoculation

Dr W L Clay —Dr Clay, a member of the prominent Clay family of Paris, this State, was found lying dead in his bed at his home in this city—the coroner's verdict being apoplexy Dr Clay was born in Paris, Ky, fifty-five years ago He had lived in this city for the past sixteen years He belonged to General Morgan's command during the late war and was a member at the time of his death of the Confederate Veterans' Association of Lexington, Ky

State Board of Health —This Board held a meeting on the 5th inst, those present being Dr Jos M Mathews, Louisville, President, Dr J N McCormack, Bowling Green, Secretary, Drs George Beeler, Clinton, Wm Bailey, Louisville, Arch Dixon, Henderson Dr J N McCormack was unanimously elected Secretary, his term of office having expired Several cases of alleged violation of the Kentucky practice law came before the Board, and a number were refused licenses The case of Dr H H Gwynn, of Louisville, was taken up, as he had asked for a rehearing As the applicant was not present, his examination papers were read, and the answers appearing unsatisfactory in every branch his application was denied Dr Gwynn has been tried once for practicing illegally, and fined He came before the Board and stood an examination, and upon these papers was refused a license

During the session the following telegram was received from the Governor

> "Information received that cattle are dying at Nicholasville, Jessamine County, presumably from pleuro pneumonia Please take immediate steps to investigate "
>
> John Young Brown

Instructions were immediately wired Dr E T Hagyard, State Veterinarian, at Lexington, to proceed to Nicholasville, investigate and report to the Board The only cases of pleuro-pneumonia among cattle were those of the Harrison County epidemic, seven years ago, which was stamped out at a cost to the State of $2,400 The State Veterinarian has rendered the report of his investigation of the alleged cases of pleuro-pneumonia in cattle He found the cattle complained of in a remote part of the county and four of the herd had died, not from pleuro-pneumonia but from inflammation of the stomach caused by some poison This is the second report recently which has been proven without foundation in regard to pleuro-pneumonia in Kentucky cattle The investigation was complete, and is thoroughly to be relied upon, and Dr McCormack will officially report the above facts to Governor Brown

Falls City Medical Society —This society met at the Kenton Club, on the evening of the 9th inst, the guest of Dr Louis Frank The paper of the evening was read by Dr Frank, the subject, "Empyema" Two cases were reported in which operations of resection of the ribs was made, in one of them a solution of iodoformized oil was injected into the cavity, under which treatment the case made a rapid recovery Dr Howard reported some cases relieved by hypnotic suggestion

Death Report —The report for the week gives a total of eighty two deaths The mortality from pneumonia still exceeds that from any other disease, there being seventeen from this cause and ten from consumption

City Hospital —Superintendent Barbour states that the Hospital is so crowded that orders have been given to the attending physicians to discharge all patients that can possibly leave the hospital, in order to make room for the new applicants

Masonic Widows' and Orphans' Home —At the regular annual meeting of the directors of the Home the following staff was elected for 1895 Dr P B Scott, Physician in Charge, Dr John G Cecil, Consulting Physician, Dr Frank Simpson Visiting Physician, Dr Henry L Tuley, Assistant Visiting Physician, Dr Ap Morgan Vance Visiting Surgeon, Dr Wm Cheatham, Oculist and Aurist, Dr W B Pusey, Assistant Oculist and Aurist Dr I N Bloom, Dermatologist, Dr Chas I Dunn Dentist, Miss Anna Davies, Resident Nurse

The Hospital College of Medicine of Louisville entered upon its twenty first annual session on the second day of the current month under the most favorable auspices There were 172 matriculates at the beginning of the session, being the largest number on the opening day of any previous year in the history of the college One year ago the college moved into the handsome new building provided for it by the Trustees of the Central University of Kentucky, of which it is the Medical Department Since that time the laboratories have been thoroughly equipped and in both the clinical and laboratory teaching additional instructors have been provided This college was the first of the Southern colleges to adopt the three year graded course, and for several years the classes were depleted in consequence The large attendance at the opening of this session demonstrates that the profession approves of the advanced position taken by this college, and that professional sentiment in the South is in thorough accord with that of the North and East, relative to higher medical education

Washington Notes

Medical Society of the District —The stated meeting of the Society was held on the 3d inst, and the following officers elected Dr S C Busey, President, Drs Thomas N McLaughlin and Geo L Magruder, Vice Presidents, Dr Thomas C Smith, Corresponding Secretary, Dr Samuel S Adams, Recording Secretary, Dr C W Franzoni Treasurer, Dr E L Morgan, Librarian Drs J T Winter, E I King, C W Richardson, Censors, Drs C H A Kleinschmidt, G N Acker, S S Adams, G C Ober W S Bowen, Board of Examiners The constitution was amended so as to allow prominent members (non medical) of the different scientific departments of the National Government to become members of the Society by invitation Two new committees were created, viz Committee on Public Health, composed of seven members which shall report in January at the stated meeting of the Society, on the general health of the District Committee on Legislation, composed of seven members which shall have charge of all matters of a legal character

At the regular weekly meeting of the Society, held on the 9th inst, Dr Kinyoun, of the Marine Hospital Service, presented the subject of antitoxin treatment of diphtheria to the Society in his usual clear, concise and scientific manner, and in conclusion urged the importance of the supervision of the Government over all manufacture and distribution of the new substance, antitoxin Dr Walter Reed, Surgeon U S A, opened the discussion, and added considerable information to that already imparted by Dr Kinyoun He called special attention to some personal experiments at the Museum in this city, and showed how his bacteriologic test was delayed by the previous application of antiseptics to the mucous membranes from which cultures were afterward made Dr Lamb presented a case and specimen of appendicitis

The Washington Obstetrical and Gynecological Society —The two hundred and twentieth meeting of the Washington Obstetrical and Gynecological Society was held on the 4th inst Dr G N Acker reported a case of ante partum hemorrhage with death of child, and Dr E L Tompkins presented a patient with polio myelitis anterior, and read a very instructive paper on the subject Both papers were very fully discussed Dr J W Bovee presented two uteri with appendages, one removed per vaginam, the other by abdominal section

Work of the Insane Asylum for the Month of December —Dr W W Godding, Superintendent of the Government Hospital for the Insane, has submitted to the Commissioners the report of his office covering the month of December During that period there were twenty three patients admitted for treatment, of whom fourteen were white and nine colored Of the whites nine were men and five females, with six colored men and three colored females Fourteen patients were reported as discharged or died during the month Four white males and two females were discharged, and two colored males Three white males died during the period and one white female, while for the colored people one death in either sex is reported

Health of the District —The report of the Health Officer for the week ended December 29 is as follows Number of deaths (still births not included) White, 63, colored, 55, total, 118 Death rate per 1,000 per annum White, 16 33, colored, 30 10, total, 20 80 Death rate per 1,000 per annum for corresponding week last year, 21 70 Still births White, 3, colored, 2, total, 5

The following is the report for the week ending January 5 Number of deaths (still-births not included) White, 65, colored, 50, total, 115 Death rate per 1,000 per annum white, 11 40, colored, 27 36, total, 22 25 Death rate per 1,000 per annum for corresponding week last year White, 7, colored, 12, total, 19

Fire in the Friedman's Hospital —A fire occurred in this hospital on New Year's day which caused considerable alarm, but little damage Origin, defective flue Protection from such occurrences has already been requested by the new surgeon in charge, Dr D H Williams, late of Chicago, who has asked for fire plugs, fire escapes and brick buildings to take the place of the frame ones now in use Dr Williams is making this hospital a model institution

Examination of Potomac Ice by the Army Medical Museum —The cutting of ice in the Eastern Branch, at the end of South Capitol Street, was the subject of a number of complaints recently received at the Health Office Inasmuch as this is the place whence all the dead animals are shipped to Mann's desiccating establishment, Dr Woodward determined to have a thorough investigation made of the quality of the ice Accordingly, he sent a sample to the Army Medical Museum to have a bacteriologic test made The report to Dr Woodward from the Medical Museum is given below

Dear Sir —I beg to inform you that the specimen of ice forwarded by you on the 3d inst has been subjected to a bacteriologic examination with the result that with five plates made, each with one cubic centimeter of water, only a few colonies of the bacillus convolutus, a common water organism, were found

I may state that this specimen, to my surprise, contains fewer colonies of bacteria than any of the other specimens of ice so far examined by us in the laboratory

Walter Reed
Major and Surgeon, U S A

The Providence Hospital —The annual report of this excellent institution shows the large amount of good work done during the past year During the year just passed a number of improvements have been made in the Hospital, thus keeping it thoroughly abreast with the best hospitals in the country We desire to note, in particular, the introduction of steel ceilings in the wards, corridors and private rooms, by which the same are rendered more cleanly and attractive, while at the same time, they are a great improvement from a sanitary point of view The hospital has been newly painted throughout, and numerous improvements in the plumbing and ventilation have been made, all of the most modern pattern During the past year the course of instruction for the sisters and nurses which was outlined at the last annual meeting has been put into practical operation

Children's Hospital —A supply of antitoxin has just been received from Berlin by the Children's Hospital, to be used in cases of diphtheria at the hospital The annual charity ball for the benefit of the hospital has been arranged for and will soon take place

Central Dispensary and Emergency Hospital —The directors are seriously considering the enlargement of the building to meet the increased demands of patients This hospital is the center of clinical teaching in the District

Sibley Memorial Hospital —The admirably located and splendidly equipped Sibley Memorial Hospital, founded by Wm J Sibley, corner of North Capitol and Pierce Streets, will be formally opened for patients about February 1 Consulting physicians recently chosen are Drs W W Johnston, J Ford Thompson, Z T Sowers S S Adams, medical staff, Drs H B Deal, D Olin Leech, Frank Leech, G C Ober, D B Street, J L Suddarth, J T Winter, W C Woodward, surgical staff, Drs E A Ballach, H H Barker, C W Brown, I S Stone, J Van Rensselaer, J R Wellington, ophthalmologist, Dr C R Dufour The deaconesses, who will also act as nurses, will receive a course of lectures on nursing, to be given by different members of the staff, the details of which are to be arranged by a committee consisting of Drs Brown, Adams and Street

Abolish the Drinking Cups —Dr Charles H Stowell has written a long communication to the Washington *Post*, urging the abolition of the common drinking cup so universal in the public schools He shows the great possibility of spread, by its use, of contagious and other diseases He suggests that each pupil carry its own drinking cup

Opposition to Medical Practice Laws —The Eclectic Medical Society of the District of Columbia, which received a charter two years ago from Congress, held a meeting on the 10th inst and denounced formally the proposed medical laws for the District, on the ground that all further legislation on this subject is unnecessary

Smallpox in the District —There is a very persistent tendency to the spread of smallpox in the city While no very large number of cases have so far made their appearance, every little while, despite the strenuous efforts of the Health Department, a new case is discovered and in many instances the cause of contagion is not discoverable At present every section of the city has its case

The New Medical Bill for the District —The Commissioners gave a hearing on the 11th inst to a number of medical men representing the Medical Society of the District and the Homeopathic Society, on the various bills now pending before Congress to regulate the practice of medicine The Commissioners have taken the whole matter under consideration and a report on the subject may be expected very soon It will pass to the Congressional Committee for final action Little hope of a law exists, so long as those interested do not agree among themselves and present a plan or bill satisfactory to two or possibly the three schools now existing in the District The general impression in Congress is that some law is necessary, but the Committee has no time to listen, during a short and busy session, to the wrangles and irreconcilable propositions from the different medical organizations

A Washington Doctor in Japan —Dr L M Taylor, of Washington, D C, is in Yokohama, and writing, says among other things "The general impression here, among intelligent foreigners, is that the Japanese will, before the spring, bring the war to a termination, resulting in their keeping Port Arthur and some additional stratagetic points captured, China to pay Japan's expenses incurred during the war"

The Cost of Making Antitoxin in the District —Health Officer Woodward appeared before the Commissioners on the 10th inst, and submitted the following estimate for the suppression of contagious diseases For the *production of* antitoxin for the treatment of diphtheria—twelve horses at $40 each, $480, maintenance of twelve horses at $10 per month, $1,200, bacteriologist, $1,800, materials and apparatus, $320, total, $3,800

Vaccination in the Police Department —Maj W G Moore, Chief of the Police Department, has taken action in the smallpox matter by issuing the following order

"Each and every member of this department will report at his station house on such days and between such hours as may be designated by the surgeons of the District, who will determine whether or not vaccination is necessary in each individual case Each surgeon will furnish these headquarters with a list of those vaccinated, those not needing vaccination, and any who may refuse the operation and in due time will report the result to the Major and Superintendent"

National Dairy Union —The second annual convention of the National Dairy Union is in session here Among other objects of the Association, they have the establishment of a Dairy Division in the Department of Agriculture

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Ja 5, 1895 to Jan 11 1895

Capt William C Shannon, Asst Surgeon U S A, is granted leave of absence for three months, on surgeon's certificate of disability

First Lieut Henry C Fisher, Asst Surgeon, is granted leave of absence for one month

First Lieut Charles Lynch, Asst Surgeon, leave of absence granted is extended one month

First Lieut George D De Shon, Asst Surgeon, will proceed from Ft Logan Col, to Ft Douglas, Utah, and report for temporary duty

Capt Reuben L Robertson, Asst Surgeon, leave of absence granted for seven days is extended twenty one days

Capt Adrian S Polhemus, Asst Surgeon, is granted ordinary leave of absence for one month and fourteen days, in addition to the extension of leave of absence granted him on surgeon's certificate of disability

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Jan 12, 1895

Asst Surgeon Ammen Farenholt, detached from the U S R S "Vermont," and to Naval Hospital, Norfolk, Va.

Asst Surgeon C P Kindleberger detached from Naval Laboratory and Department of Instruction, and to the U S R S "Vermont"

Medical Inspector George H Cooke in addition to present duties, will attend officers on duty at League Island Navy Yard but residing outside of the Yard

LETTERS RECEIVED

Anderson, Winslow, San Francisco, Cal, Ayer, S P, Kewanee, Ill Antikamnia Chemical Co, St Louis, Mo

Birney, E., Greene, Iowa Bates, X T, Poughkeepsie, N Y Brownne J S New York, N Y Brown, Warren, San Francisco Cal Bagwell J F, Diehlstadt, Mo Bridges Norman, Los Angeles, Cal,, Blair, J M Houston, Texas Barnsdale, Robt, Plover, Ill

Central News Co, Naperville, Ill *Central Col of Physicians and Surgeons Indianapolis, Ind* Columbia Chemical Co., Washington, D, C Coley, Wm B New York, N Y, Clousen, J Omaha, Neb

Davis, Geo S, Detroit, Mich, Dolliber, Goodale & Co, Boston, Mass Drew C Jacksonville, Fla

Elliott, A R, Chicago Ill Edwards, S, Oakfield Wis Elliott, W S Woodford, Tenn Ewing, W Brown Wernersville P O Pa

Fowler, Nath'l C, Jr, Yonkers on Hudson, N Y Flaherty, James Prattsburg, N Y, Frazee, Geo E, Ann Arbor, Mich

Gross M's S E., Chicago, Ill, Grady, Richard, Baltimore Md, Gerhard, Wm P New York, N Y

Hamilton, E E Wichita Kansas, Harrison W G, Talledego, Ala Hummel, A L, (2) Philadelphia, Pa Hurd, A W, Buffalo, N, Y Howle W P Oran, Mo Hyman & Schambs, Cleveland Ohio Holland J W Philadelphia, Pa

Judkins, E H, Portland, Me, Jenkins, W R New York, N Y

Keener W T Co, Chicago, Ill Kenyon News & Subscription Co Chicago Ill Kerr, W S Mansfield Ohio

Longmans, Green & Co, (2) New York, N Y Lippincott, J B Co, Philadelphia, Pa Lord & Thomas, Chicago Ill

Marchand, Chas, (2) New York, N Y Med Dept Mutual Life Insurance Co, New York, N Y, McKeown, W W, Youngstown, Ohio Means, W J, Columbus Ohio, Moore, W E, Derby, Iowa, MacGowan & Cooke, Chattanooga, Tenn

Pierson, Allen, Spencer, Ind Parke, Davis & Co, Detroit, Mich

Raeder, J W Wilkes Barre, Pa, Rational Chemical Co, St Louis Mo Rees, A M Charleston S C

Stewart F E, Detroit, Mich Smith, C W, Horner W Va., Sinnett J H M, Smithville W Va Schieffelin, W H & Co, New York, N Y Southworth, Chas T, Monroe, Mich

Van Hook, R C, Lebanon Tenn

Wright, J P St Louis, Mo Woitishek F J, Cedar Rapids, Iowa Ward, V J, Miller, Ga Washburn, A A, (2) Clinton, Md, Woodbridge J E, Youngstown, Ohio Westerman, B & Co, New York, N Y, Whufield, A J, San Luis Potosi, Mexico

The Journal of the
American Medical Association

Vol XXIV CHICAGO, JANUARY 26, 1895 No 4

ADDRESSES

RADICALISM AND CONSERVATISM IN GYNECOLOGIC SOCIETIES

Address delivered at the Annual Meeting of the Chicago Gynecologic Society, October 1894

BY F H HENROTIN, M D
CHICAGO

An address by the retiring President seems to be one of the leading features of the annual meeting of this Society, and I see by the program that I am not to be spared this year

Gynecologic societies are generally organizations of comparatively recent nativity, and are the result of the recognition of gynecology as a distinct and all-important branch of medical science I am not in possession of facts by which I could outline to you the history of these societies generally, but the work they accomplish is so important that I thought I might entertain you upon their peculiarities and their field of usefulness Previous to the last two or three decades, the work now accomplished by these associations was made a part of the transactions of the general medical societies, and later on, of the obstetrical societies As gynecology developed, however, and the womb of alma mater brought into the world the modern aggressive abdominal surgeon, gynecologic societies made their appearance, and to-day they are a factor and a power, whether local, national or international

The gynecologic society of to day is usually a select, exclusive, limited and energetic body The individual in a community who first announces himself as a specialist in the treatment of diseases of women is usually a man who by reason of his ability in that department combined with an appearance, deportment and breeding which commands respect, has been unusually successful, and a society formed around a nucleus of a few such men can hardly help being select That such a society, select in its membership, should become exclusive and limited is but fitting, and this very limitation makes its members energetic and untiring Small societies when composed of the right material, constantly surprise us by the character and the amount of good work done

Among the startling figures in every gynecologic society is the radical It was probably one or two of these who originated the society itself and who are among its founders or charter members The radical gynecologist is usually a great fellow He generally has the best and most remunerative practice in that section of country His jaw is square and he usually has an opinion, and does not hesitate to give it when requested In practice he is a 'grand *couteau*" and is at his best in abdominal surgery, and when he goes in after something he usually brings it He generally does but little gynecologic tinkering or "swabbing" as he calls it, that is, since he has become a radical He did begin with glycerin tampons, but he has forgotten that He is, as a rule, a full professor in an undergraduate college unless he has been frozen out by some phase of college politics, and if he is the right sort of a radical, rest assured that no one else teaches that branch in that college

He is a skillful operator, accustomed to operate before the class, and when he cuts into the bladder or perforates the uterus, usually no one knows of it until it is ascertained if the patient recover He gets through the abdominal wall in seconds and makes vaginal or abdominal hysterectomies in minutes He is always a fighter, if a true radical, and ready to take his punishment like a stalwart Methods differing from his are usually not good methods, and he fights them with knife and pen and tongue He is, however, a good brave friend and has magnificent courage in proclaiming and maintaining his convictions When some fellow member writes and reads an article on conservative surgery of pelvic diseases, a strange, far off look settles in his eyes until the discussion opens There is much to admire in this man He gets many hard knocks The medical practitioner who seldom opens books to read, and never uses a lance, I mean the man practicing medicine with a license and no more, is extremely fond of enlarging upon the present practice of wholesale removal of internal organs by certain men, and when doing so is quite as emphatic and denunciatory as can well be imagined considering their common allegiance to the same profession

In more moderate terms there come also words of dissent from the youthful and inexperienced Many of us remember the time when before becoming more expert, we considered radical operations usually unfortunate

Then again, more serious yet, the general surgeon, and, it may be, a fellow member of the same society must have his say concerning the tendency of modern gynecologists to perform these horribly mutilating operations without reason The general public also takes up the cry, and the press, or some uninformed unfortunate fellow through the press, dilates upon the butchery and unwarranted license in operating

All the hot coals kindled by the aforementioned are heaped upon the head of our friend, but he stands bravely to his colors There is one shaft, however, that wounds him in the most tender spot, and that is the one hurled by one of his own kind beneath the shield of conservatism An honest radical will stand anything in the way of criticism better than one word from the man who, practicing the most extreme radicalism in surgery is constantly writing and preaching and talking conservatism When too old to operate, if he does not kill himself by overwork, he sometimes becomes more conservative

I protest against all these denunciations of the great work being done by these men, and against the unfortunate tendency of some men who write on conservative methods in such a manner as to convey criticism. It was the work of these very men that lifted gynecology far toward its present plane, and in fact, it was the radical procedures that later on rendered conservative methods possible.

That occasionally surgical enthusiasm carries some of these disciples beyond the line of prudence is not denied, but a sin of commission in this respect is not more baneful than one of omission, and on the whole, they usually deserve their reputation. I need not mention names to call to your minds the many men who were persecuted and anathematized for their boldness in the field of gynecic surgery, and yet who are now recognized as having accomplished heroic work in the establishment of the life-saving methods of to-day.

There is an old saying that "Competition is the life of trade." I do not believe it. Whether in trade or in profession, the successful man does his work honestly and perseveringly through his love for his labor and with an honest ambition for success, but without envy for his rivals, profiting it may be by the experience gained from the mistakes of others, but traveling his own road diligently and not striving to pull others down.

In the great struggle for supremacy of these latter days, there is too much of this "knifing," as I might call it. The men at the top are almost constantly at bay. Many of them become unapproachable because of the habit of being perpetually on guard to defend their views. They thus imperceptibly acquire almost vicious dispositions. One man hardly treats Americans with civility, because some Americans have criticized him too harshly. Another does not stir from Philadelphia or Baltimore except in armor clad, for all emergencies prepared, and so on throughout the land, each according to his greatness having a larger or smaller enemy's territory to watch.

These remarks do not apply to proper, just, intelligent and dignified criticism, where such is fit. A deep thrust of a Jaggard blade is frequently quite painful and makes one writhe, but the knife is clean, the wound aseptic, and a veteran is the better for the experience.

All the above I say preparatory to the usual good advice and suggestions of a retiring President, and they come in mind, in view of the constantly increasing evil of criticizing the man in our societies, and forgetting the fact that we are only brothers of one family. Moreover it does not apply to this society more than to many others, though organizations largely composed of men devoted to some special branch are most likely to err in this direction. Allow me, then, to confess some of our sins, and expressing contrition, make resolutions for the future.

Special societies then, being select and limited in membership, should be composed of working members only, and any individual joining but not giving his share of labor, should be allowed to go. Of this there can be no doubt if good is to be accomplished. The gentleman who joins our ranks and makes his appearance once a year or fails to send a paper does not belong with us, no matter how great his name nor how high his standing. The gentleman, also, who appears once a year to read a paper or present an instrument or a specimen, and never comes to hear any other man's paper or view another man's instrument or specimen, is of very little value as a member, and both of these species should be called to time in a gynecologic society. We will, therefore, pay more attention to attendance at our society in the future, and damned be he who never comes.

We recognize obstetrics as the fountain head from which we sprung, but we acknowledge that we are constantly forgetting our parentage and that we give too little time to its consideration. This is positively a fact. I defy intelligent contradiction to the assertion that apart from the teaching of asepsis, there is more empirical, loose, non-scientific obstetrics practiced in this country to-day than most men would be willing to acknowledge, and even asepsis is used as a cloak to bungling work. This country, with full knowledge of what clean scientific obstetrics means, has done less than any other in rendering that knowledge universal. Concerted action emanating from gynecologic and obstetric societies is most emphatically needed in the regulation of irregular midwifery schools, and in the propagation of scientific midwifery. We will elect as our officers to represent us before the community and in the profession at large, men only who by their good work deserve the distinction and who will not allow politics to creep in our midst.

In our discussions and criticisms we will observe a standard above and beyond all personalities, and be guided by an elevated sense of the dignity of our calling. We will slash without fear the arguments which we believe unsound, and destroy to the utmost all teachings which we consider bad.

Unprepared essays and irresponsible hasty assertions will be expunged from our proceedings and the blue pencil drawn gently through the title "My last 1,000 hysterectomies," or the photograph of the sort of basin in which to wash the hands preparatory to a laparotomy.

And when a general surgeon in our ranks informs us emphatically that this wholesale sacrifice of uteri must stop, that the history of gynecology in the last ten or twenty years must be written over, we will gently invite him to read us a paper on exsection of the malignant parotid and larynx, with statistics, remembering that good breeding will not allow us to notice if the gentleman turns red in the face.

Lastly, as regards the assistance we propose to render to the latest advanced movement in gynecologic circles toward "the Conservative Treatment of Pelvic Intra-abdominal Diseases," we have this to say. We all confess that in our early work we sometimes failed to recognize diseased organs before operating, and we further acknowledge that we sometimes were very little wiser when we had these organs in hand and sight, and that our anxiety to know whether we could exsect such organs safely was greater than our knowledge of what constituted pathologic conditions, and that therefore few of us feel perfectly free from just blame. We state upon honor, however, that since we have learned to distinguish intra-abdominal pelvic disease, we are all conservative and are guided only by one desire, to cure the patient and to cure her permanently and completely.

That we recognize and acknowledge that to radical methods and radical operators is due a large amount of the credit gained by conservative operations later on, and that we have no desire to discredit such gentlemen but cheerfully acknowledge their assistance and the value of their labors We also desire to state that it is our experience that so called radical operations are very frequently really the most conservative in their ultimate effects, and that these questions are still debatable and will remain so until closer and more frequent and more complete observations help us to reasonable conclusions

That we believe that all the members of our society and kindred societies are honestly endeavoring to secure the most desirable results, both immediate and ultimate, and that the discreditable work is done by the inexperienced who is honest and conscientious, and the inexperienced who is not conscientious, and that we will do all in our power to assist the one and to disarm the other

Finally, that we pledge this society as such, in unison with other gynecologic societies, and its members individually, to an honest, earnest and dignified endeavor to promote the aim of all, and that we recognize in our ranks neither radicals nor conservatives, but simply co workers with one and the same aim—the alleviation of the sufferings of womankind

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PRESIDENT'S ADDRESS

Delivered at the opening meeting of the Academy of Medicine
Louisville Ky Jan 7 1895

BY T L McDERMOTT, M D

PRESIDENT OF THE ACADEMY OF MEDICINE LOUISVILLE

It is a gratifying duty that devolves upon me, to welcome you to these quarters and to inaugurate the opening of the Academy of Medicine It has long been a matter of unfavorable comment that so prosperous a medical center as this, embracing in its circuit so many luminous votaries, who would add grace and lustre to any sphere, has so long been denied the pleasure and profit that must, of necessity, arise from more intimate communication among its most zealous devotees

Aside from the fact that such gatherings, not only foster the purest instincts of ethical fraternity but also refine and advance our calling, the mere existence of such an Academy proves the unselfish desire of its founders to strengthen the professional ties that bind us to a lofty purpose, the elevation of our guild and the widening of its beneficent power What prince or potentate beloved of the populace, has a higher incentive or a nobler aim than we? The glamor of its past has endeared it to every age, and its grander progress in the future will be ended only with the decay of time From humble beginnings it has traced its prospering presence, through all the years, growing grander in its victorious march at every stage of its eventful career Nor was its progress made through tortuous channels or by the aid of misleading sophistry It advanced through broad and open paths that reflected the enlightenment it had gained in its way Neither the trick of the charlatan, nor the lust of the miser found encouragement or lodgment in the councils of its faithful band They were always the same brave legion, levying tribute from industry and genius to embellish the temple they were building for the world A frank and manly army were they that shattered the idols of fraud and turned the heedless ear to the alluring temptations of princely influence or debasing gold The crown won by those humane apostles of science by means of such sacrifice and devotion has been transmitted to us, and through us, to posterity, and I hope we are erecting a sanctuary where fitting proselytes may be dedicated to the noble task of carrying us forward to greater victories and grander trophies

While a well poised modesty might forbid any rash expectancy, who can tell but that from our humble midst some brilliant star may yet illumine paths that are still dark, and that yet may open glorious vistas unimagined in our brightest dreams? From less promising beginnings men and measures have risen into exalted prominence and have brightened the pages of history with their renown

I hope this meeting will be the forerunner of a long and intimate companionship, embittered by no envious rivalry, or selfishly sought prominence I hope it will be the personal aim of all to extend and perpetuate the usefulness of this association, for in no other calling is there so often need of a helping hand and of charitable counsel Give lavishly of both to the aspiring and the humble, for the general good is only attained by common effort and self-abnegation In every city of considerable size in the world, a society like this has been the Mecca and the inspiration of the proudest exponents of our science

Forbearance toward the frailties we all possess and a zealous enthusiasm for the common good are the cardinal elements of success in this undertaking Every individual member must feel that upon his efforts largely rests the usefulness of the society We start the enterprise to night in a general way It depends upon the majority of the body to guide our steps in the future into such paths as may seem most desirable for the general welfare It is intended that these quarters shall be kept open daily and that they shall be supplied with all the latest periodicals It is hoped that the members will avail themselves of this opportunity to cultivate each other and to study together In a long experience as a student and practitioner, I have realized that the most valuable lessons to me, were those I learned by contact with fellow doctors The benefits resulting from quick and constant relations with other men in the same pursuits as our own are inestimable, whether at the bedside, or on the rostrum A consultation in either case, not only decides the hesitating but confirms the established opinion Those who have sometimes wavered in momentous dilemmas can tell how grateful they were to a helpful brother whose sturdy skill gave them medical guidance, or whose masterful poise in a fateful moment checked the rashness which might have jeopardized a precious life

The Academy is especially intended for the encouragement and development of the younger members of the profession, and it is hoped they will excite and emulate the generous rivalry that intellectual efforts stimulate and improve To them must we look for that breezy personality that gives vigor and freshness to an enterprise whose vitality so largely depends on an active and eager membership It should be the duty of all to maintain that benevolent harmony, without which existence, if possible, would only be characterless and without profit or pleasure Let it be the unwritten law of the assemblies that captious criticism, acrimonious debate or selfish display shall beget silent scorn rather than generous tolerance No acerbities must be allowed to mar the peaceful haven we have designed for our exploits

We have no need for warriors or their methods in this Arcadian realm where we hope the white-winged messengers of peace and forbearance will insure a long and honorable prosperity Rather let us emulate the busy bee, whose quiet but indefatigable industry slowly but surely achieves results that furnish the text for the grandest ambition Nothing is accomplished in scientific circles by the lash or the sword Patient delving, silent study, harmonious communion and comparisons with fellow-laborers are the omnipotent factors that build and ornament the fabric whose foundations are built on stony facts and gilded with empyrean truths The real architects of the world are brain-workers In the little gray cells are evolved the masterful conceptions before which the brawny mason and the iron-monger stand in awe while realizing the insignificance of their own rude works Franklin harnessing the lightning, Morton evolving an anesthetic, Jenner elucidating vacciniæ, these are only a few of many instances I might cite to show the tremendous value and glory of mental achievements before which the brutal deeds of giants, the bloody triumphs of armies and the huge works of ponderous machinery pale their fitful luster as ignominiously as a flickering taper in the glare of day Mind dominates matter, and the wise physician, figuratively speaking, controls the dynasty of every kingdom

How few, even of our own number, realize the stupendous power of an alchemy or a knife that may blast a nation's hopes or break a mother's heart Only after a lifetime of ineffectual labor is drawing to its close, does the sluggard comprehend the loss in his wasted moments or even the jaded savant, while realizing his incompetence give utterance to his impotent regrets A song of praise or a meed of opulence may beguile us with their tuneful lullabies and may seduce the loitering dreamer while time and opportunity are running riotously away So life, like the brook, flows on and on, and the dalliance of the year that has passed becomes the anathema of the one that is born, without relief from the curse that has blackened them all Toward the end, prizes and power alike have exhausted their potency, and still the sluggish mill pond contains the sediment of a myriad aspirations that sparkled like iridescent diamonds in the crystal waters at their source Only to those patient few who show untiring fidelity to their work and a lifelong devotion to duty, will come the real meed of glory By many unostentatious sacrifices they may reach a pinnacle for others' wonder, may build an immortal monument for themselves, while giving health and happiness to untold millions The lesson of a self-sacrificing life is not lost Even moderate intellectual powers, rightly applied, may bring us greater rewards than riches or rank, though they also can be won To many of us belong such intellectual attributes and powers What tocsin shall wake them from their slumberous lethargy?

> "Lives of great men all remind us,
> We can make our lives sublime"

But how or when? That is the burning question which glows in the morning of intention,but the night shades of delay enshroud them in their pall The enigma finds solution in the gathering of this evening, the clash of intellect in seemly debate encompasses the defeat of error, and as the sword in battle leaves only the imperishable to valor Out of the destruction comes conquest, and truth and fame are the rewards of the struggle Let us cultivate these discussions then, in the spirit in which they are instituted, for self improvement and the advancement of medical research, always keeping in mind the axiom, that in "unity there is strength" and that the end to be attained is the common good of all Let us not imagine for an instant that any individual member of this society is essential to its future welfare Egotism and contention are a baleful menace to our prosperous continuance Our association must be harmonious to be stable Let the suave chivalry and the courtly demeanor of the drawing room add lustre to the learning and skill of the polished doctor and let the wounds of debate be forgotten at their close. Recriminations inadmissible in convivial society should find even less tolerance in the efforts of scientific explorers Let the torrid Hotspur bathe his reeking flanks in patience and accord forgiveness to petulant zeal, always remembering the object of our meeting is to promote medical study for the enlightenment of our guild This is our professional home. Beneath its shelter we can all find a warm welcome and a pleasing habitation Let the discordant sounds that shock men in the busier marts of trade find no echo in its precincts, hallowed by so many associations and sacred to such lofty themes Within the walls of a symposium so alluring, let the traveler of science find fitting respite and a sweet hospitality in the bosom of his friends Surrounded as I am, in this charmed circle by men I know so well, it seems superfluous to mellow the lute to ears properly attuned by study and breeding, but I feel we have set in motion a beautiful engine, capable of doing great good for us and afflicted humanity, and I would be derelict in duty to hush these notes of warning

On the other hand, if we realize the advantages as well as the dangers that confront us, we shall succeed in the fullest measure This society will be a beacon to all Let its shining light not only illuminate our own lives, but guide others who are in darker lines to its fostering influences Thus educated and equipped it may be our boast, as it has been our predecessors, that our great brotherhood has been ennobled by every generation that wore its livery

ORIGINAL ARTICLES.

ON A NEW TYPE OF NEURASTHENIC DISORDER—ANGIO-PARALYTIC OR "PULSATING" NEURASTHENIA

BY CHARLES L DANA, M D

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The present tendency to analysis and differentiation of clinical types is a helpful one It may at first sight seem to encumber our nosology needlessly, but the final result is to secure a better comprehension of disease, its cause and its treatment, as well as to lead eventually to simpler classifications This fact has been well illustrated in the history of neurology I feel sure that the differentiation of a good many types of neurasthenic disorder will eventually be made and that this, if carefully done, will help to remove the indefiniteness at present suggested to our minds by the word

Such is my apology for attempting to describe a new type of neurasthenic disorder now

I have had six patients who all presented very distinct and peculiar symptoms Coming to me at varying intervals I have been struck with the similarity of their symptoms It justifies me in claiming for them a distinct type of functional disorder

The clinical portion is best shown by telling the story of one of my patients

Case 1 —He was a furrier by trade, an Englishman by birth married, and 20 years of age, his mother had heart disease, the rest of the family were healthy He was always a strong and active though nervous, young man Since a boy he had used tobacco excessively and drank much beer He had never had syphilis or bad sexual habits When he was 18 years old he was attacked with a sudden fainting spell, and a few days later he had something like a convulsive tremor The seizures were evidently due to excessive smoking Since these attacks, which did not recur, he has had a general feeling of pulsation through the whole body It is not his heart alone but his chest trunk and head that throb in unison with the heart beat This pulsation stays with him day and night and in every position of the body Neither rest or activity modifies it very much Abstinence from tobacco and alcohol does not relieve it It is accompanied with some nervousness and he occasionally has a sense of propulsion as though he were going to run forward He has very rarely vertigo but no tinnitus aurium He sleeps well His symptoms have continued, with varying intensity, up to the present time He is now, however, rather worse An examination of him reveals a healthy, nervous looking man, the hands show a fine tremor The skin is dermographic to such an extent that one can distinctly write a name on it which comes out bright and red and remains for thirty or forty minutes The skin is moist and ruddy, the pulse very soft compressible, the rate being 80 per minute

There is no goitre or exophthalmos He sometimes has a little vertigo but no pain, or headaches His special and general sensations are normal He has no atrophy or paralysis There is some exaggeration of the knee jerks and a considerable degree of the static ataxia which I find common in neurasthenics His urine is normal His heart is normal, beating strongly yet it is not hypertrophied There are no murmurs Pulse 75 He has a decided epigastric pulsation and a systolic murmur is heard here Pressing on the carotids lessens quickly the throbbing feeling in his head

The trouble makes him nervous and distressed, and he is barely able to attend to his business A long rest, including a sea voyage and abstention from tobacco and alcohol did him no good

Under treatment he improved slowly Two years later I saw him again His health was much improved but the pulsation still annoyed him

Case 2 —The second case was more remarkable by reason of the successful therapeutic procedure employed The patient was a man 27 years old, single, an oyster opener and dealer by trade He had worked very hard and been exposed to wet and cold He denied, absolutely, sexual excess and venereal disease He used alcohol and tobacco in moderation It is to be remembered, however, that assertions of temperance in these things are not always trustworthy, and in this patient I thoroughly suspected masturbation His parents had no nervous trouble He had had most of the diseases of childhood, but was always fairly well aside from these In 1884 he had typhoid fever In May, 1889, he suddenly and without known cause, began to have attacks of palpitation of the heart This gradually passed into a condition in which he felt a sensation of pulsation all over the body a general throbbing synchronous with the heart beat This beating was much more marked in the head and was here accompanied with a feeling of pressure in the occipital region He suffered a great deal from cold hands and feet He had no dyspnea and no pain His appetite and digestion continued fairly good but he became very nervous and mentally depressed, and his sleep was disturbed In fact he denied that he slept at all I first saw him in March, 1890, a year after his trouble began Examination at this time was largely negative, so far as objective symptoms are concerned He was fairly nourished but rather thin The lungs and abdominal viscera were normal The heart action was not strong, but there was no dilation or murmur The rhythm was normal, and the pulse rate never high, ranging from 70 to 80 The pulse was very soft and of low tension, the hands and feet cold and easily congested The skin was very dermographic, a mark upon it lasting five hours He had an epigastric pulsation Pressure on the carotid stopped the beating on the side of the head on which pressure was made There was a slight enlargement of the thyroid, but no exophthalmos, no tremor, no sweatings, no heat sensations The reflexes and the special senses were normal The urine also was normal in amount and reaction specific gravity 1028 It showed great excess of phosphates His intelligence was good, he was not hysterical No form of treatment, mental or medical did him any good He had given up work because he said he could not attend to it

I finally sent him to the hospital and had him put to bed and carefully watched for possible masturbation element Rest, carotid compression, tonics, sedatives, ergot, digitalis and other drugs failed to relieve him except that his sleep was improved by sulphonal

He became willing to undertake any treatment for his relief, and I finally sent him to Dr Seneca D Powell who kindly undertook to tie the common carotid This was successfully done at the Post Graduate Hospital in the fall of 1890 After the operation the patient expressed himself as quite rid of the distressing beating so far as the right side of the head and body was concerned He felt so much relief that he was able to endure the left sided beating He left the hospital and went to work Dr Powell and myself have seen him at intervals since He continues better, the beating has not returned on the right side but continues on the left He has gained some in flesh and strength and is comparatively comfortable, it being now over three years since the operation

Case 3 —The patient was a young man of 25, of healthy antecedents He denied venereal infection He was always of a nervous temperament For the past three years he had drank excessive amounts of beer, had sometimes taken a small keg in a day He smoked moderately and there was no sexual excess In the spring of 1894, while in apparent health, he awoke one morning with a feeling of dizziness and nervousness, sensations of beating and throbbing appeared, he became very nervous and depressed and was unable to concentrate his mind on his work A beating sensation was felt in his head and chest continually and caused him great distress He had also headache and insomnia and ringing in the ears He placed himself under the treatment of a local physician who found a sensitive urethra and treated him a long time for this with slight benefit When examined by me, I found a rather rapid pulse, 85 per minute, of low tension The heart was normal in size and sounds, the peripheral circulation was sluggish, the extremities cold and easily congested, the skin was dermographic, there was an epigastric pulsation, though not so marked as in other cases An examination of the eyes by Dr Wm F Mittendorf showed astigmatism and a slight venous pulsation of the retinal vessels The tongue was coated and the bowels constipated His most annoying symptoms were the beating, the nervous depression and that indescribable feeling of incapacity to work and enjoy life which the neurasthenic dwells upon so much I should add that he had repeatedly tried to master his sensations and go to work, but they never left him, and he returned to his invalid habits in despair He has improved considerably, but is still far from well

I have not met with exactly similar cases in women

Case 4 —A married woman aged 55 and several years past the menopause, has frequently complained of the same pulsating sensation She is rather large and plethoric, and is of a nervous temperament For several years she has suffered from nervousness, insomnia and the vasomotor symptoms of the climacteric She now complains chiefly of the constant "beating, beating, beating" in the head and chest, and is quite sure a vessel will burst unless it is stopped The pulse is quite regular constantly at 100, but there is absolutely no exophthalmos, goitre or even tremor Basedow's disease does not appear at this age Her heart is slightly enlarged, and there is a systolic murmur at the base, which, however disappears when she gets relieved by treatment of the tachycardia and pulsation The urine is normal She improves rapidly under aconitia and rest The pulse got down to normal, the murmur disappeared and she was comparatively well for six months The symptoms returned for a few months under stress of some domestic affliction and have been again relieved

It is evident that cases of this kind are more closely related to Basedow's disease than those before described They are not due to any heart lesion, for people with heart disease do not have such pulsating phenomena except during attacks of palpitation

The other cases which I have seen have not all been so severe and obstinate as the above four, but the patients have shown the low tension pulse, vasomotor weakness of extremities, subjective sense of beating felt most in the head, epigastric pulse, dermographic skin, insomnia, nervousness and mental depression

Etiology —So far as my experience goes, the cases occur in young men or adults under 40 I have not seen this form of disorder in women except in the modified type described The abuse of tobacco and alcohol, particularly the former, was the conspicuous exciting cause in two cases, while tobacco and alcohol and sexual excesses were factors in the others

Pathology —The instability of the vasomotor system in neurasthenics is well known and has been particularly shown by Wolf (*Allg Zeitsch f Psych* xxiv) and Anjel (*Arch f Psych* viii , 2) The special symptoms of palpitation, of epigastric pulse and of tinnitus, fullness of the head, head pressure and throbbing are also familiar But the patients I describe have more than this There is a general pulsation of the body felt most annoyingly in the head but also in the trunk One patient (Case 2), when suspended in a Sayre's apparatus, could be distinctly seen to move with each beat of the heart

It appears to me that in this condition there is an abnormal relaxation of the arterioles and capillaries, the blood is thrown into tubes that have lost their resiliency and thus the pulse waves are not fused together It is as though a liquid were thrown through a series of tubes with flabby non elastic walls Hence the heart-beat is strongly felt all along their course as far as the capillaries Besides this there is after a time a hypochondriacal element in their cases The patient's attention becomes fixed unalterably on his sensations

Van Hösslein (*Miller's Handbuch der Neurasthenic*, p 127) describes the case of a neurasthenic who suffered from epigastric pulsation This tormented him so that he went to a surgeon who opened the abdomen thinking he had an aneurysm The abdominal aorta was found to be perfectly normal, the wound healed and the patient was cured

I doubt if Dr Powell's success can be accounted for in this way, because he only cured one side of the man Yet it seemed to help him generally and permanently more than one would expect from the nature of the operation

Symptoms and Diagnosis —I have already referred to the characteristic symptoms of the malady The patient is neurasthenic and presents the general symptoms of this condition But his special symptom is the sense of beating of which he never loses the consciousness He has a low tension pulse of normal or but slightly accelerated rhythm, he does not have palpitations occurring in paroxysms as in Basedow's disease He may or may not have tremor, there is a striking degree of dermography, and an epigastric pulsation Pressure on the carotid stops the beating on the corresponding side of the head There is no evidence of exophthalmic goitre There is, usually, insomnia, nervousness and mental depression

Treatment —The striking success of surgical treatment in one case leads me to believe that ligature of an artery is the surest cure for the disorder Still in the milder and less typical forms, cure is obtained by the use of general and vasomotor tonics, in other words by the ordinary treatment for neurasthenia. I have found no benefit from ergot Restrictions must be promptly placed upon the use of tobacco, alcohol and sexual indulgence Potassium iodid, hyocine, hydriodic acid and arsenic sometimes act well in this as in other forms of vasomotor neuroses Aconitia in doses of gr 1-200 may be of service I strongly advise against the use of the bicycle in these cases

A prescription containing bromid of iron gr ¼, bromid of potassium grs x, hydrobromic acid ♏ viii and spartein sulphate gr ⅛, gives relief in many cases Bromid of camphor and strychnia are often useful. I insist, when possible, upon the patient taking hydrotherapy in the form of a Charcot or Scottish douche

50 West Forty-sixth Street

A FURTHER DISCUSSION ON MALARIA A WATERBORNE DISEASE

Read before the Mississippi Valley Medical Association at its twentieth annual meeting, at Hot Springs, Ark , Nov 20, to 23, 1894

BY W H DALY, M D

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A paper which I read before the American Climatological Association, in Washington, May 29, 1894, entitled, "Some Practical Observations on so called Malaria being a Waterborne Disease," and published in the *Medical Record* of Sept 15, 1894, has called forth in the *Medical Record*, and other medical journals, much correspondence pro and con, it has also brought to me many private letters from prominent medical men, who have read my paper, many, in fact, most of them, not only indorsing my observations and views, but giving as a result of their own independent observations, data which strengthen the position I have been brought to contend for I am pleased to learn of the widespread attention the paper has received, and only ask that the same unprejudiced observations will be resorted to that my paper comprehended, that every factor in the question shall be taken account of, and that causes and consequences shall be followed up, in considering both the evidence of the water, being the sole or chief vehicle of the Laveran corpuscle passing into the human organism, or the air we breathe, or whether both the air and water are the efficient vehicles of the germ finding its way into the blood, where we know it exists in the pathology of malaria, producing its manifestations, known to us as paludal fever, malarial fever, or chills and fever in its multiforms

In summing up the evidence in a given case of so-called malaria, it is important to remember, that the water vehicles of malaria may include contaminated land water, taken into the stomach on the stalks of celery, or on the leaves of lettuce, or it may find its vehicle in the rinsing of milk cans with malarial water, or in the adulteration of milk with contaminated water containing the Laveran germ, the cistern water stored under the earth may easily be contaminated by the earth water containing the germ, if the cistern itself is cracked or otherwise inefficient, the fact that the patient has drank at all of suspected water, even but once, ought to be taken into consideration, as the single draught of contaminated water may have contained all the necessary germs for the infection of the blood and the production of the fever

It can well be understood how the greatest care must be exercised in a malarial country to avoid taking into the stomach, some time or other, the germ in drinking water, and it will therefore appear at once, how necessary it is to exclude the water possibility, in making up data that will exclude the air theory of infection

In order to define my position on this question, permit me to quote from my article in the New York *Medical Record*, of Sept 15, 1891, wherein I say "Twenty years' observations and studies on this subject, and investigations made in various districts from Manitoba to Louisiana, and all along the southern coast of the Atlantic Ocean, and of Cuba, Yucatan, and other districts in Mexico, lead the writer to the conclusion, that so called malarial disease is not easily, if at all, contracted by inhaling so called malaria or bad air, of the low, swampy, or new lands, but it is distinctly, if not *almost exclusively*, due to drinking the water that has come into contact with, and become infected with, the malarial germs or infusoria that exist in the earth and waters of the swamp and lowlands This germ does not ordinarily, if at all, float in the air during the day, nor does it find easily a vehicle in the fog or vapors of the night Indeed it is difficult to understand how one is to avoid the night air, even if it is conceded to be deleterious—a conclusion I much doubt Does any other air than night air exist at night? Is it possible to breathe any other? Is there any habitation sufficiently sealed against the outside air, to make the breathing of outside night air impossible?" It is the water alone that can and must be avoided, to avoid the air is quite impossible

Touching the important general question of malaria it is pertinent to quote from a recent review in the *British Medical Journal* of Oct 27, 1894, of Dr A Laveran's work on "Paludism" as translated by Dr J W Martin, of London, and printed by the New Sydenham Society for 1893 The review says "It is interesting to note the different ways in which two of the most important discoveries in pathology of modern times have been received No sooner had Koch proclaimed the bacillus tuberculosis, than it was accepted with acclamation on all hands, immediately stamped as genuine, and passed as good current coin This was in 1882 Two years before this date, in 1880, Laveran described the microorganism of malaria The discovery was hardly recognized at the time, and even now, after a lapse of thirteen years, it excites so little interest that many are unaware that it has been made The pathogenetic character of the schizomycetes (fungus or bacteria microbes) as a class had been well established long before Koch made his famous discovery, but no one suspected that an equally if not more important rôle is played by the protozoa (unicellular animals) as disease agents, until Laveran made his discovery If we look at the matter from the practical point of view of sickness and mortality, we find that bacillus tuberculosis is credited with one seventh part of the total mortality of mankind, the malarial organism with one-half

"For thirteen years the great discovery has been before the profession, and yet practically nothing, so far as Englishmen or Americans either, excepting Sternberg and a few others are concerned, has been done with it We should like to know what practical teaching in the matter there is in our medical schools, particularly in our naval and military medical educational establishments We wonder how many of the men whose principal future lifework will lie in combating this organism have been brought face to face with the thing itself, have actually seen their future enemy, or been taught how to search for it In this matter our medical guides and teachers, both in this country and even in France itself, have a great deal to answer for But signs of the recognition of the importance of Laveran's work are beginning to be discoverable Evidence of this we have in the translation recently issued by the New Sydenham Society We trust that this semi-official stamp of recognition will at last insure its general acceptance by our countrymen, or, at all events, its thorough investigation

"Dr Laveran's work is a very complete, temperate and judicial statement of all the more important modern views on the subject of the malaria parasite In the course of the work the parasite in its polymorphic forms is carefully described, its bearing on the pathology of malarial disease and the practical outcome of our knowledge of the existence of such an organism are thoroughly discussed Interesting chapters call attention to similar forms of parasitism among the lower animals, and detailed clinical evidence is given in abundance in support of many of the statements the author advances Dr Laveran expends a good many pages, we think unnecessarily, in defending himself from the repeated attempts which certain Italian investigators have made, to filch from him the credit of a certain and important part of his great discovery Any one who has read his first large work and his numerous early papers knows very well with whom the entire merit of the discovery rests Although stating them very fully, Laveran does not see his way to accept Golgi's views of the life cycle of the plasmodium, fascinating and original though they may be"

While the great question of malarial fever is one of widespread interest, it is the one phase of it that the writer is investigating, viz The waterborne means of infection Laveran says [1] "Numerous facts tend to prove that the infection may take place through drinking water, and that persons who have contracted paludism (malarial fever) have almost always made use of water of palustral (with humid or marshy soil) localities" He says further

1 "It has been found repeatedly that in the same localities, among persons living under the same conditions, but drinking water from different sources, some were attacked by palustral fever while others escaped

2 "In certain localities which were formerly insalubrious it has been sufficient to place pure water at the disposal of the inhabitants, instead of the stagnant water which was formerly used, for palustral fevers to disappear

3 "In some localities, otherwise very healthy, people may contract fever, whose drinking water comes from unhealthy localities, and the persons most ex-

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[1] Paludism By A. Laveran New Sydenham Society, published 1893

posed to infection in these conditions are those who consumed *most water*

4 "Travelers passing through unhealthy countries often succeeded in escaping fevers, by only drinking water *that has* been boiled, while people who do not take that precaution suffer severely "

Dr Norbury[e] in the *Medical Record* of Oct 6, 1894, says on the subject of "Malaria a Waterborne Disease " "I wish to add my experience and observation to the line of inquiry pursued by Dr W H Daly, of Pittsburg, Pa , in his most excellent paper in the *Medical Record* of Sept 15, 1894, regarding malarial infection In the summer of 1881, while employed under the directions of Maj G J Lydecker, U S A , in the construction of the Kampsville Lock (Illinois River improvement), Kampsville, Calhoun County, Ill , I had the occasion to observe the effects of drinking water on persons temporarily residing in this malarial district, as well as upon the native inhabitants The land immediately adjacent to the lock site was known as bottom land—it was overflowed at each high water season—and was poorly drained, being very flat Water stood in the bogs or swamps until the dry weather of summer had completely evaporated it Drinking water was obtained for the men employed in the construction of the lock foundations from drive wells, put down to the depth of twelve or fifteen feet The men employed on the dredge and tow boats and the officers used filtered river water

"Among the many laborers who sought employment were forty Swedes, who had arrived in this country from their native land about ten days before coming to the lock, they were a vigorous, well-nourished body of men, eager for work *They took board* in quarters near the lock, and drank water from the drive well Within ten days one of them was taken down with malaria, and before two weeks ten or more had succumbed, one died and two were seriously ill At the end of a month but three were able to continue work, one of these had no malarial symptoms at all, he worked on one of the boats, where he drank filtered water Now all of these men seemed peculiarly susceptible to malarial infection, and as quickly as they could returned to Chicago to escape its ravages The men who worked on the boats escaped the disease The natives who drank of the well water were not so much affected, yet quite a number of them had to quit work The wells used by the natives, however, were located on the edge of the bluffs, about one-half mile from the river Here we have, I think, marked evidence of the infection coming from drinking water, for all the employes, officers and all, were situated under like atmospheric conditions and exposed to the same heat, etc , during the day, yet those who used filtered river water escaped, while those using drive or open well water were afflicted Some three and one-half years spent in engineering work on the Illinois River confirmed my belief *in the possibilities* of infection from water supply, rather than from atmospheric conditions I indorse Dr Daly's views "

Since my paper appeared, Dr Healy in a letter to the *Record*, asks some pertinent questions as to a solution of an outbreak of malaria some four months ago in the Twenty-fourth Ward, New York City, following the excavation for sewers, that can only be answered by a careful investigation on the ground, as to whether any of the persons taken ill 1, had drank from wells, 2, had eaten lettuce, celery or other uncooked vegetables from paludal localities, 3, whether any had drank milk from paludal localities where the cans may have been rinsed, or milk adulterated with palustral water (malarial)

Dr Healy however, says as to the drinking of contaminated water, being one of the prime factors "I can offer *proof positive* in the person of myself Some eight years ago the house in which I then resided, *had for its water supply* a cistern and a well After using this well water for drinking purposes for a few months I suffered from a severe attack of chills and fever Upon investigation I found the well was receiving the leakage from an out house as well as the surface drainage Upon discontinuing its use all symptoms disappeared "

Dr R D Jewett, editor of the North Carolina *Medical Journal*, writes me in a private letter dated Oct 22, 1894 "Your ideas are emphatically ours, and we believe that acceptance of this fact by our people will be a great boon to this section " And Dr Jewett has in these few lines, the gist and great good of the whole question, viz , teach the people to drink only uncontaminated water, and you have made the great advance toward settling this question And this is the chief end and aim of my several papers, for the accomplishment of that custom will go far toward settling the question of how we are to prevent palustral fever, by eliminating what I believe to be *quasi* factors

Dr M D Hoge, Jr , of Richmond, Va , writes me in a private letter dated Sept 19, 1894, as follows "Your 'Observations on Malaria' in the last number of the *Medical Record* is one of the cleverest and most satisfactory articles on the subject I have ever read I write to thank you for it, as a believer in your views for a long time past To my mind it is the only rational and reconcilable theory on observations on this plague of our section I am at present engaged in a study of the blood of cattle suffering from climatic fever, and hope to have something ready in a short while "

Dr W A Plecker, of Hampton, Va , writes me in a private letter dated Sept 18, 1894

"I am convinced that you are correct in your views, and am surprised that attention has not been more generally called to impure water as a source of malarial fever "

I have received many other letters of a similar tone, and there can be no doubt that it is the duty of the profession to cultivate a habit in their patients to drink only boiled or uncontaminated water in infected districts, since they can not avoid breathing the suspected air let us at least eliminate the water factor I confidently predict we will then have successfully compassed the prevention of palustral (malarial) fever

We all fully agree with Laveran's researches, and it is quite well known to all my hearers that damp, uncultivated, marshy or humid soils are those that offer the best medium for paludism The existence, however, of marshes properly speaking is not necessary, and on the other hand all marshes do not cause fever, even in hot countries, at Tahiti in Australia and New Caledonia, both of which abound in marshes, palustral (malarial) fever is rare If the marsh then is not necessary there must be a humid soil for the Laveran corpuscle to propagate itself The small rains which take place at the end of the summer in hot countries and which are soon dried up with the sun, are known to be very dangerous and productive of palustral (malarial) fevers This fact has been observed by Dr W J Lumsden, Dr Oscar McMullen and others of Elizabeth City, N C, who write me, saying especially are these rains productive of new cases, as well as outbreaks of fever in old cases, *among those who have drunk the water from surface* wells, and the same facts are spoken of by Laveran and other observers

The physical conditions here are evidently hot sun, brief fall of storm water, succeeded by hot sun, for the rapid growth and development of the paludal parasite, a long continued rain, followed by colder weather are conditions unfavorable to development, as shown by the lesser multiplication of palustral disease

There can be no doubt that the digestive juices are destructive to the palustral protozoa in the stomach, if the digestion is strong and healthful, but that condition, unfortunately, is not an ever present condition in those who drink water from palustral soil Hence those who are most readily affected are such as are fatigued, weak, or under mental or physical strain or disease, anemia and privation also weaken the digestive vitality, and permit the passage of the parasite, through the diluted juices of the stomach into the blood It has been so often demonstrated, as to be accepted as a fact, that parasites are developed by preference in weakened constitutions, where vitality is already lowered just as mosses and lichens invade the trunks of sickly trees and other vegetable growths

"It seems," says Pasteur, "that vigorous life repels other life which wishes to graft itself upon it It is when an individual grows weak that it becomes an easy prey to the parasites which besiege it, and it has been shown that by starving animals they can be made liable to disease, which they resist in their normal state

"The period of incubation or latent stage of palustral (malarial) fever has been shown to be from seven to nine days, and the longest period seventeen years (latter problematical), and Mariotti and Ciarocchi, Cella and Marchiafava, Gualdi and Antolisei, and Angelini, made experiments which showed that, when palustral blood containing hematozoa is injected into the blood of man free from paludism (malaria), the fever appears in the inoculated subject on an average of ten days after the injection

"The paludal hematozoa (malarial) in the blood live at the expense of the normal elements of it The invaded red corpuscles grow paler and paler in proportion as the parasite develops, and it is probable that no anemia, except that resulting from hemorrhage, can be better explained than palustral anemia"

Professor Bouchard writes "One thing seems certain to me, viz, it is that bacteria act in animals by the matters they secrete, and further, the fever of the infectious disease is toxic, it is provoked by diastases, such as that studied by Roux, by ptomaines, such as the amidaleine of Brieger"

A recent private letter from Dr A Laveran, of Paris, says

'*My Dear Confrere* —I thank you very sincerely for your article which I have read with a great deal of interest I think with you, that palustral infection has its place in water, and I am happy to see your new work which sustains that view One finds, moreover, in the water of palustral localities organisms, very closely resembling the hematozoa of palustria, but no one has yet succeeded in proving the question, as to the form under which hematozoa is to be found in the medium outside of it

Be pleased to accept, my dear confrere, this expression of my devoted sentiments"

I have made some unavoidable digressions in discussing the phase of this subject in which I am *deeply interested, and have taken the liberty of quoting* liberally from Laveran and others in the foregoing pages It is within the easy province of every medical man to make researches on this question, unprejudiced by any theory, and as a practical means of testing the drinking water factor in paludal infection of the system Let every physician and citizen in infected regions resolve to observe and advise the drinking of carefully stored storm water in cisterns above ground, and the boiling of land water, where such must by force of circumstances be used for potation

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4 Editorial "Malaria a Waterborne Disease' Indiana Medical Journal October 1894

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6 "Is Malaria a Waterborne Disease?" By F W Dalrymple M D Medical Record Nov 10 1894

7 Questions Concerning Malaria" By W H Daly, M D Medical Record Dec 1 1894

8 "Malaria and Drinking Water' By Rawlins Cadwallader A M., M D Medical Record, Dec 15 1894

9 Is Malaria a Waterborne Disease" By F Kershner, M D, U S N Medical Record Jan 5 1895

10 "Malaria a Waterborne Disease By L W Zwisohn, M D Medical Record Jan 5 1895

ON THE VALUE OF KINESITHERAPY IN GYNECOLOGIC PRACTICE

Read before the Gynecological Society of Boston

BY RICH HOGNER, M D

BOSTON MASS

The Swedish medical gymnastic was founded, developed and perfected, as is well known, in the beginning of this century by P H Ling, and to day there is not a civilized country where its fame has not spread and where some medical gymnast has not located

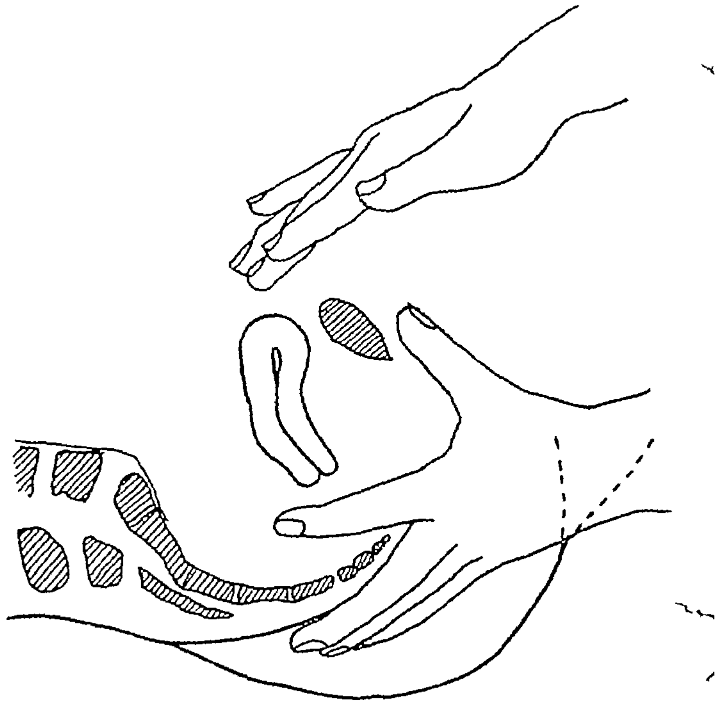
That the Swedish medical gymnastic is firmly *grounded on scientific principles is best shown by* the fact that regular physicians are beginning to take it up, as a specialty, more and more, and that the public has confidence in its ability in spite of the damaging influence of the so-called massagists, hardly half taught or self made medical gymnasts, not to mention ignorant male and female administrators of baths, who do all that is possible to disgrace the name and drag down the method But just as "wise old crones" and midwives have not been able to injure the scientific practice of gynecology and obstetrics, so have their counterparts in the field of medical gymnastics been unable to drag down the kinesitherapy The labor of these impostors has created a wide gulf between the quack and regular medical gymnast, a gulf which will be widened still more in proportion as physicians study and themselves practice the manual treatment of diseases

Swedish medical gymnastics reach the desired results by means of active and passive movements, increasing or decreasing the metabolism, regulating resorption in any given part of the body and by increasing the general tone Kneading and other manipulations quicken a sluggish circulation, increase the blood supply and local nutrition, and by this means tone up the vessels, nerves, muscles and elastic tissues In case of great nervous irritability it has a tranquillizing effect Its proper practice requires an intelligent knowledge of anatomy and physiology, and for the best results a thorough medical education There are, however, comparatively few physicians who devote themselves exclusively to kinesitherapy, but, on the other hand, there are many skilful, experienced medical gymnasts (especially in Sweden, where they must go through a three years' course of study), whose great daily experience is productive of many facts applicable to new fields of investigation The good results obtained by these medical gymnasts in treating diseases which many physicians have looked upon as of the *noli me tangere* sort have, therefore, been doubtfully received in the beginning and indeed reasoned away entirely, until some physician of known authority has been sufficiently unprejudiced to test the matter himself and find the cause—previously shrouded in darkness—for the wonderful cures which have, in fact, been made by many medical gymnasts, similarly has been the experience of kinesitherapy in gynecologic practice

As long ago as 1859, a Swedish officer and medical gymnast by the name of Thure Brandt, employed Swedish medical gymnastics in the treatment of the so-called female diseases, but not till 1877 had this empiric perfected his method For many years the fame of Brandt's cures had spread abroad, but physicians and gynecologists had remained, as a rule, indifferent to it until Dr Profanter's initiative In 1886 Professor Schultze invited Brandt to give a public test of his method at the University Clinic at Jena, and we know of Brandt's brilliant victory Since that time, physicians from all parts of the world have flocked to Stockholm to learn the method from its master

The full scientific explanation of Brandt's successful cures first appeared in 1888 through the researches of Professor v Preuschen[1] upon the pelvic muscles, and the influence exerted by contractions of the levator ani upon the axial position of the uterus and upon the vaginal canal

I will not go into the details of Brandt's method, as it is not long since I have presented it in a paper read before the Massachusetts Medical Society, but will simply remind you that this method does not confine itself to bimanual massage and so called "liftings of the uterus," with subsequent powerful adductive movements of the lower limbs, nerve pressure, etc, but first and last in every *séance* are given regular gymnastic movements that lead the blood to or from the abdominal organs, and which are determined by careful calculation for each case I will quote from the above mentioned paper, what I said about the technique and action of the valuable *uterus liftings*, as this is the more difficult to perform and understand A practical assistant is required and the treatment is only used, as a rule, when the uterus lies forward or, at least, is so placed for the time being The patient assumes a half-lying position on a gymnastic bench The physician sits at the left side, passes the left hand under the patient's knee and enters the vagina, places the womb in the normal position, if necessary, and while keeping the left forefinger on the cervix presses it gently backward and upward with this finger, at the same time he lays the outside hand on the middle of the abdomen, in a direction from above downward, pushes the skin gently downward so it does not become rigid but can be pushed upward again when the womb is lifted, the hand rests on the forward, upper surface of the womb, thus showing where it is to be found The assistant has in the meantime so placed himself that he can with his hands held together in a half supine position, parallel to the abdominal wall, press into the pelvis on the anterior side of the womb with the finger tips down to the os internum, there, if possible, he should meet the physician's forefinger Without losing his hold around the uterus, the assistant lifts it up, giving delicate, light, vibratory motions to the hands, so that he seems to try to lift the cervix or orificium externum lengthwise of the os sacrum's curvature from below, in the median line, upward, so that the fundus uteri follows, though not to the same extent When at the beginning of the movement the uterus is in a more or less upright ante-position, it can be placed finally in a more horizontal one, with cervix in prolapsus-uteri, even as high as the promontorium, the fundus leaning forward The uterus is thus lifted more or less high, is held in this position a few seconds, or even a moment, and lowered by the assistant more or less rapidly, according to the desired effect The movement is repeated in this way three times at each *séance* The physician always assures himself that the womb lies in proper position forward at the close of the movement If this should not be the case the uterus is correctly placed before and after each new lifting If the uterus liftings are not properly done they can hurt the patient very much After the liftings some strong movements are always given as before stated for the adductores femorum, during which the levator ani contracts, as has been proven by experience



Brandt's position of the "inner hand" The forefinger in vagina (sometimes in the rectum), and the unused fingers of the hand perfectly straight and firmly together, resting closely against the body, and taking, together with the palm, the shape nearly of the inner gluteal region the thumb is held a little forward of the os symphysis When necessary, Brandt has conbined the thumb in vagina and the forefinger in the rectum

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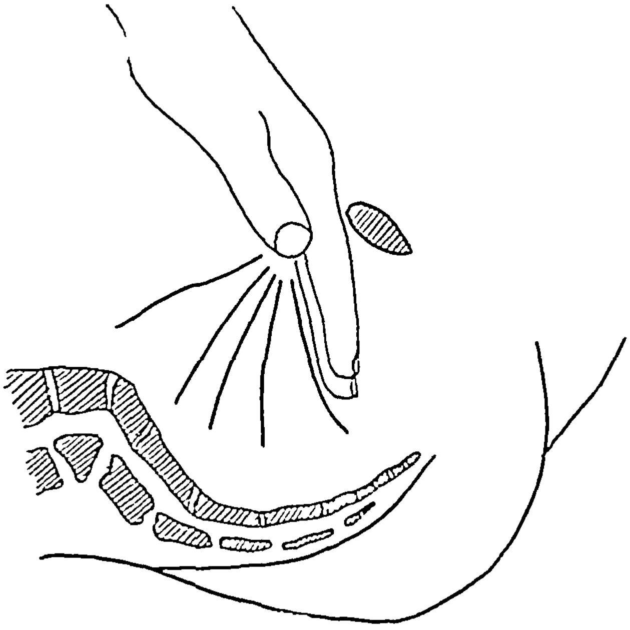
[1] Die Heilung des Vorfalles der Gebärmutter durch Gymnastik der Beckenmuskulatur und Methodische Uterushebung Centralbl f Gynäk, 1888

Since Ziegenspeck, and after him v Preuschen, have drawn attention to what was unsuspected before, the significance of the levator ani in holding the uterus within the pelvis or, in other words, in preventing prolapsus, it may be allowable to enter more specially on its anatomy The muscle levator ani punctum fixum is, as we know, the forward half of the little pelvis as far as the spina ischii its punctum mobile os coccygis In the female body the anterior fibers of the levator ani extend down the sides of the vagina, through this muscular base or levator ani the three pelvic canals must push their way down A contraction of the levator ani has, therefore, says Ziegenspeck, as consequences

1 A crowding together of these canals from back to front

2 A change of position of the canals from this point forward and upward toward symphysis

3 A disturbance through the distance from the spinal line, as well for the portio vaginalis as for the vaginal opening into the diaphragma pelvis which otherwise lies in this line



A scheme of the "uterus liftings, showing the uterus axis in different phases during the movement

In contraction, then, of the levator ani, the vagina becomes really bent with the angle backward, so that part of the vagina which is over the diaphragma pelvis takes a nearly horizontal position when the patient is standing Both the increase of distance from the spinal line and the changed position of the vagina secure the portio's position in the pelvis

Professor v Preuschen continues The levator ani has a double function, it decreases the width of the vagina and, by causing a horizontal bending, places the upper portion of the vagina in a condition to bear up the portio, it interposes a barrier for the downsinking portio Whether this barrier can really hinder the descensus of the portio depends, on the other hand, on its relation to the position of the uterus If the uterus is retroverted, the weight of the bowels drives the portio forward in the direction which comes finally to that point where the horizontal direction of the vagina merges into a downward slant The first strong pressure from the bowels can then cause prolapsus It is quite different if the uterus is anteverted and meets the horizontal portio at an acute angle opening forward As long as this position exists, or as long as the uterus returns to it, and after every change of position, pressure of the bowels brings the portio only more firmly against the barrier formed by levator ani and prevents prolapsus Now as the uterus in nearly every case of prolapsus takes a retroverted position, the secondary aim of the treatment is to overcome the retroversion and convert it into an anteversion This indication is filled by the methodical uterus liftings after Brandt's method

Furthermore Schultze has shown that the causes of retroversion can for the most part be traced to abnormal fixations depending on inflammatory processes in the cellular tissues of the pelvis, and Freund and Ziegenspeck have shown that it consists mostly of a mass of tissue and muscular fiber, the scarred retractions of the tissues between the bladder and the uterus Any attempt to bring the uterus into anteversion therefore, tends to stretch the abnormal fixations between the uterus and bladder, as the portio again takes its normal position with relation to the spinal line This is in the most perfect manner, induced by the "uterus liftings" of Thure Brandt

The gynecologic kinesitherapy has its fixed indications and contra-indications The indications are Chronic or subacute inflammation in the cellular tissues of the pelvis and their secondary changes, exudation, para- and perimetritis and subsequent misplacements (retroflexions, anteversions and anteflexions, diminished mobility of the uterus, misplacements of the ovaries with twisting of the vessels and nerves, adhesions, etc), oophoritis and para-oophoritis, chronic metritis (sometimes endometritis), cervical catarrh, descensus and prolapsus uteri, vagino cysto-rectocele, swelling of the tubes, hematocele, pericystitis and periproctitis with secondary weakness in the sphincter vesicæ and ani

As contra-indications are stated Malignant tumors, acute pelvic peritonitis, newly established inflammations in general, salpingitis, gonorrheal, purulent, tubercular and septic processes in the uterus and its adnexions, tubal pregnancy and finally excessive fat in the abdominal wall

A regular pregnancy is not always to be considered as a contra indication and Brandt himself, with his marvelous experience, has many times prevented miscarriages by lifting movements, immediately relieving labor pains and hemorrhage, usually after the first or second day he follows the treatment by gentle massage or short tangential strokes from fundus downward to the isthmus

In spite of the fact that gynecologic kinesitherapy is a laborious method, fatiguing to the physician and patient, requiring daily seances for weeks or even months, it is practiced more and more by European physicians and clinical gynecologists besides, whose time, mind, and strength surely would not be sufficient to devote to unnecessary and fatiguing manipulations The fact that such men as Schultze, Profanter, Schauta, Duhrssen, v Preuschen, Jentzer, Stapher and others, introduce kinesitherapy into their great operative gynecologic practice shows best what worth they place on Thure Brandt's method

It would be too much to enumerate here all the cases of successful cures which have been published in the gynecologic journals of the world up to date, or to compute statistics, I will only state that the latest presentation of the subject was made at the as t International Medical Congress at Rome by Professor Jentzer, of Geneva, when among others he submitted a brief statistical account of 145 cases treated by himself personally, namely

1 Two cases of prolapsus with lengthening of collum uteri Age, 23 and 29 years Treatment and cure from twenty-three to thirty-five days No relapse In the second case the uterus fell again into retroflexion

2 Fifty-seven cases of partial involution after confinement or miscarriage, without retention of placenta All cured after twelve days to two months

3 Twenty-two cases of parametritis, one of which was the width of two fingers below the navel All healed after two to six months treatment

4 Nineteen retroversions Cure in two cases only As he saw Brandt had very fine results in this class of cases he explained his lack of success by his inexperience in Brandt's technique He adds that in fifteen of the cases, retroversion was complicated with adhesions and the massage caused by lessening the latter a considerable subjective improvement, in spite of the continued unfavorable position

5 Eleven cases of weakness in the neck of the bladder after several confinements Cure in eight cases Treatment one to four weeks One case improved Two cases unchanged

6 Seven cases of hydrosalpinx Cure in four cases The other three unchanged Two of the latter have been cured by Dr Vuillet by vaginal puncture

7 Menorrhagia in twenty-seven cases, nearly all in connection with the climacteric period, in eight cases of which "curettage" was resorted to, but without result Cure in twenty-three cases after one to three months, two cases improved, two unchanged

The above statistics are almost a perfect type of all those given by different physicians of their experience with Thure Brandt's method, and my own experience corresponds to this entirely As for certain retroversions which *quod situm* show results with little encouragement, but, *quod salutem subjectivam* are very satisfactory, they depend, as already above named, most frequently on the drawing together of a scar after inflammation in the tissues between the bladder and uterus, but also not infrequently on a relaxation, a lengthening of the ligamenta Douglassi To treat these changes of position with pessaries or operations, with medium fixation in the opposite direction, fills, it seems to me, *indicatio causalis* just about as often as a man could fix the "head erect" in torticollis with bandages or "an operation on the other side," moreover it should be remembered that as Ziegenspeck demonstrated, even the decreased mobility of the uterus is a form of displacement

It may look very well to be sure, in such a case as retroversion, to make an incision of an inch in length in the abdominal wall, draw up the ligamenta rotunda with sutures and in this way fix the fundus uteri forward, but the fundus does not constitute the whole uterus and it is not certain that the cervix, isthmus and the lower portion of the uterus lie any more normally after such an operation because the fundus does—so much more uncertain, since we know that the ligamenta rotunda signifies little to the uterus in maintaining its position, so little in fact, that they can be loose and sinuous as the intestines after, for example, repeated confinements and still the uterus will lie anteverted Turn the fundus as much as you will and let the cicatrice drawing between the bladder and the uterus remain, then the mobility of the organ will be abnormally diminished and will remain

Statistics show, it is true, that pain ceases after such an operation but how long? Here they most frequently maintain silence It is comparatively seldom that displacement itself needs to be attacked, just as in case of chills it is not the shivering one must deal with, but as a rule it is the cause to the secondary displacement which must first be treated A proof of this lies in the fact that many displacements exist without causing the least inconvenience to the patient, and why? Because the cause of the abnormal position of the uterus is too slight to occasion pain, but sufficient to cause displacement This is why many retroversions do not cease through treatment a la Brandt, because the ligamenta Douglassi, which are important in the normal position of the uterus forward, have become so lengthened and relaxed that they can not be made to resume their elasticity and normal length, but pains and many other symptoms disappear, nevertheless because the kinesitherapy could take away the *causa morbi*, *i e*, infiltrations or cicatrice contractions On the other hand, it must be confessed, there are displacements which are the direct cause of pain, etc, which cease almost simultaneously on the correction of false position I recall, for example, a patient in the third month of pregnancy who was relieved of many inconveniences by a replacement of the uterus which was leaning backward, pressing against the promontorium, also another case, a severe dysmenorrhea which suddenly appeared after two and one-half days painless catamenia, and two hours after eating fried pork and cabbage, which caused great indigestion, cramps and pains with augmented abdominal pressure and which tipped over the neutrally lying uterus, this was changed by replacement, *i e*, after a return of free circulation

The causes of displacement are manifold, and their treatment at present, unfortunately, not less varied If for one reason or other we can not treat them pathogenetically then it must be symptomatically Then we must have recourse to pessaries or in preference, operative methods, but this must not be the case in and out of season, but with great discrimination, and not as a rule but as an exception In a gynecologic practice covering nearly fifteen years, I have seldom used pessaries and then when I did not possess full confidence in Thure Brandt's method, since then the pessary has been laid entirely aside

To exemplify the value of kinesitherapy still further, the following case of dysmenorrhea yet under treatment may be cited

Mrs S A, 27 years old, married three years, without children, was seized with abdominal pains five years ago, followed by severe catamenia, which so increased from time to time, that during the past year or two she has been compelled to lie in bed five days each month, because of "almost unbearable suffering" On examination two weeks after the last menstrual period, which was as usual, excessively painful, the uterus was found somewhat enlarged hard and tender, with decreased mobility backward, also in a half retroverted position, the left ovary also somewhat enlarged and slightly tender to the touch No symptoms from the bladder The patient had, it may be added, been attended two years by a good gynecologist without result She was now treated with uterine massage and "uterus liftings," also strong movements leading the blood from the abdomen Fourteen days after the beginning of the treatment the menses came, perfectly painless, so that the patient only discovered her condition by accident, 'scarcely believing her eyes" The treatment has been continued without interruption and will go on until the uterus becomes as free and mobile as desirable

Next to a sharp instrument there is surely no gynecologic method so effective, so universally available and yet so reliable as kinesitherapy When one has become master of the method he can not do harm by its use and all who have tested the methods, choosing their cases with discrimination, agree in their opinion that gynecologic kinesitherapy is of the same benefit as massage and medical gymnastics in their place Yet it is true that all these diseases are not cured by kinesitherapy In gynecologic practice it has its own great special field, just as the knife, which it should never over-reach It may be added that kinesitherapy may be used very often with our other gynecologic methods

If gynecologic kinesitherapy is used only according to its indications and then only when a thorough knowledge of the method shows it to be the surest and swifest means to the desired end and when it is applied by physicians only as a rule, who are gynecologists, then it is certain that even the most prejudiced physicians would be convinced of its advantages One and all who have, after making themselves competent, tested it, gladly coincide with this opinion

Professor Jentzer's closing words to the above mentioned paper were "We call upon our colleagues to exert their influence to have this new therapeutic method introduced into the course of instruction at universities," though I think at present one must "make haste slowly," and be better content with the admonition to gynecologic specialists not to delay acquainting themselves with a method which has been tested in at least 10,000 cases in different countries, and has never yet been known to injure, but instead, it has only improved and most frequently healed the sick

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EXPERIENCE OF AN AMERICAN PHYSICIAN IN MEXICO

BY D H GALLOWAY, M D

CHICAGO

In March, 1893, I received the appointment of assistant surgeon in the service of the Mexican Central Railroad This road extends from El Paso, Texas, to the City of Mexico, a distance of about twelve hundred miles The main line and branches make about two thousand miles of road operated by this company Every employe contributes a certain portion of his wages to the support of the medical department This consists of a chief surgeon, with headquarters at Aguascalientes, and ten assistant surgeons There are four hospitals—at Chihuahua, Aguascalientes, the City of Mexico and Tampico An assistant surgeon is assigned to each, and the others are stationed at intervals along the road Cases that can be moved and that require hospital treatment are sent to the hospital most convenient to the scene of accident Should patients desire it, they may be treated in their own homes, but in that case the department furnishes only medical and surgical care and medicine In case of contagious diseases the company furnishes a house, nurse and everything needful

I went to Aguascalientes, a city of 40,000 inhabitants, about three hundred and fifty miles north of the city of Mexico and twenty five hundred miles from Chicago I remained in the hospital there about six weeks and was then ordered to Silao, a city of 20,000 inhabitants, 126 miles farther south

The difference between Mexico and the United States is, in many ways, very striking, but in nothing more so than in medical, and particularly in surgical, matters I occasionally met the Mexican doctors in consultation and at operations, and very few made any pretense of keeping an appointment on time I met—or tried to meet—one doctor by appointment eight or ten times, and on *no* occasion did he arrive within an hour of the time appointed On one occasion I completed a small operation, cleaned my instruments and was leaving the house when he arrived The Mexican, under such circumstances, never expresses surprise or disappointment He did not appear to think that any apology or explanation was due me for his tardiness or due him for my having proceeded without him Mexico certainly deserves the name of the Land of "Poco Tiempo" (in a little time—after awhile)

Chloroform is used almost exclusively, and I never heard of a death from its use They administer it from a little cone which is made of a piece of stiff paper and filled with cotton This cone is such as the grocer extemporizes in which to dispense a few cents worth of spice, and is three or four inches long and an inch to an inch and a half across the large end In this way they will use an ounce to an ounce and a half in getting the patient asleep, but the process is so wasteful that the patient gets but little

In 1839 a law was passed requiring all applicants for the privilege of practicing medicine and surgery, to pass an examination in medicine conducted in the French and Spanish languages This does not apply to graduates of Mexican medical schools This law is still enforced in some of the States of the Republic There are few medical works in Spanish, and, in fact, not many scientific books of any kind in that language Therefore the schools use books in French All well educated Mexicans speak French, and just now there is a strong movement toward the study of English The Spanish language is also deficient in business terms and so it is necessary to draw on the vocabulary of other languages English is the great source of supply for this purpose These words must be made to conform to Spanish rules of spelling and pronunciation, and where any change is made in the former it is always an improvement as that must be "fonetic"

But to return to the matter of registration There is a possibility of becoming registered in some States without the ordeal of an examination To accomplish this, it is necessary to proceed as follows A letter must first be obtained from the President of the college issuing the diploma, stating that the applicant is the lawful owner of the diploma presented This letter, with the diploma, is to be sent to the Secretary of the State Board of Health He will make a certificate which will state that the college is a regularly chartered medical institution recognized by the State Board of Health, and that certificates are issued to its graduates on the diploma This certificate is attached to the diploma and it all goes to the Secretary of State of the commonwealth That individual certifies that the signature to the previous document is that of the Secretary of the State Board of Health, and that his official statements are entitled to full faith and credit This is attached to the others and goes to the Governor He certifies that the accompanying document is signed by the Secretary of State of the commonwealth and that full faith and credit are due his official attestations The Governor's certificate is added to the collection and it is then taken to the Secretary of State of the United States This officer certifies that the document hereunto attached is under the seal of the State of ———, and is entitled to full faith and credit You will notice that each man vouches for the *official* statements of the other, and leaves us in doubt as to whether his private statements are entitled to the same faith and credit

The package of documents is forwarded to the Mexican Legation, and the Envoy Extraordinary and Minister Plenipotentiary of the United States of Mexico in Washington, certifies that the foregoing signature is that of the Secretary of State of the United States, and the seal that of the department of which he is in charge Each document bears a gold seal, except that of the Secretary of State of the United States, which is provided with a red seal and blue ribbon Thus reinforced, the diploma is ready to go to Mexico Thus far there have been no charges except those of the express company which transports it from place to place In the City of Mexico it is presented—together with $10 10 in document stamps—to the Secretario de Relacionas Internes He certifies that the foregoing signature is that of the Mexican Minister in Washington The next move is to the Governor of the State in which the applicant expects to practice He will add—or perhaps he will not—his signature to the illustrious list The next and last call is on the mayor of the city or town, and possibly this call will have to be repeated once a month and a license fee of $1 or $2 paid

The fortunate—or unfortunate—individual who has thus prepared himself to practice medicine and surgery is now ready for a call Should two of his *clientele* get into a fight and one of them have his femoral artery cut, the doctor may be called in, in which case he will—if he is law abiding—wait for the arrival of the mayor or his representative If that officer arrives in time—and it is not likely that he will—the doctor will receive permission to tie the artery If the patient is dead, that will not be necessary and the doctor will not have soiled his hands or his instruments There is in Mexico a law which forbids any one—even a surgeon—interfering with an injured person until the arrival of some representative of the civil authorities There is, however, a special clause in the charter of the railroad company which makes it lawful for the company surgeon to attend to employes of the road without waiting for such formality Hence the first inquiry the doctor makes, when called to a case, is "Is this man's name on the pay roll of the company?" If the answer is in the negative, he returns to his office or treats the patient on his own responsibility and at his own peril This law dates back so far that its origin is lost in the mist of many decades It is acknowledged by all to be a bad law, but, as the mayor said "We are here to enforce not to criticise the law" I will say, however, that while I ignored this provision of the law, I was assured by both the Governor and Mayor of immunity from molestation They stipulated that I should not move the patient from the position in which he had been found

The cost of a funeral is not great If the body is that of an American tramp or an unknown or unclaimed native, the cost of burial will be $5 75 A coffin will cost $2 50, a permit to inter in second yard, second class, will be $1 25, four cargadores, for carrying the body to the cemetery, $2 A more pretentious burial costs about $31 Coffin $16, a permit first yard, first class, $5, and $8 for a monument on which is inscribed name, age and place of birth This secures undisturbed possession of the ground for three, five or seven years At the end of that time the grave-digger will exhume what is left of the skeleton, the larger bones will be gathered together and thrown into a vault prepared for that purpose. The smaller bones will go with the sand and clay to help cover up the next occupant of that spot In Guanajuato there is a vault which contains the remains of more than one hundred and twenty thousand human beings The bones are thrown in here through a kind of a chute and then piled up without regard to any order The pile of bones is 250 feet long, 6½ feet wide and 12 feet high The entire vault is 450 feet long Three sides of the cemetery are lined with tiers of vaults, each large enough for one coffin. At the end of five years these are emptied. Sometimes the body is found to be mummified In this condition the remains of an adult weigh but about ten pounds A number of these mummies are standing along the wall in the unoccupied portion of the vault It is said that persons sometimes recognize the remains of friends in this ghastly gathering. By paying $100, a grave or vault may be secured in perpetuity, but this is not usually done The scenes in this "Panteon" ought to make a cremationist of every visitor

Silao is situated at an altitude of nearly six thousand feet and has a magnificent climate In the shade, the temperature ranges from 70 to 80 degrees F, and at night from 60 to 70 degrees The rainy season lasts from May to September During that time it rains nearly every day The shower usually lasts an hour or less and it immediately clears off In eighteen months there were but three "cloudy" days Silao probably has the finest climate in Mexico, though that of Guadalajara is very similar. Drinking water is kept in porous earthenware jars and a good jar will keep the contents about 20 degrees below the temperature of the surrounding atmosphere I placed a thermometer on the ground in the sun and it registered 127 degrees F, moving it four inches, into the shade of a building the mercury went down to 81 degrees F, and in a jar of water it dropped to 61 degrees F This water is more palatable than ice water

For several years typhus fever has raged all over the table land of Mexico but has now about disappeared Smallpox is endemic in almost all large towns and cities The people think but little of it, and it is quite common to see children on the street in all stages of the disease Malaria is common but ordinarily yields readily to quinin There are some cases of the pernicious variety Next to typhus, pneumonia is the most dreaded of diseases A very large percentage of cases are fatal and that within forty-eight hours

Doctors are almost never called to attend in childbirth Midwives look after this, and blindness from gonorrheal ophthalmia, is common The poorer classes are indescribably filthy and consequently skin diseases abound Many of them never bathe The shoes of these poor people consist of a piece of sole leather fastened to the foot by means of straps Their heels crack and these cracks sometimes become infested with bedbugs

Urticaria is common among the Americans here, but they can not be charged with personal uncleanliness Nasal catarrh is all but universal among the Americans Pulmonary tuberculosis is not common, and I believe this would be an excellent climate for consumptives if sent here before the disease had made too great progress Chronic bronchitis is unknown and cases arriving are relieved immediately and soon permanently cured

Venereal diseases are fearfully prevalent A Chicago firm is doing a rushing business "curing" syphilis in three days at $150 per cure They give twenty five pills which are guaranteed to contain no mercury The pills are a drastic cathartic and cause emesis and salivation, the latter so copious that the patient lies with his head on the edge of the bed and allows the saliva to run from his mouth into a vessel The company claim that every "sore" about the genitals is syphilitic, so their marvelous "cures" are readily accounted for There have been several cases of insanity reported as a result of this treatment

A great many people have cancer and other tumors, as might be expected when they are so afraid of the surgeon's knife The Mexicans have a sure cure for cancer I have never seen it tried A live toad is cut open and bound upon the tumor "In three or four days the cancer comes out, roots and all " For brain fever they similarly cut open a pigeon and apply it to the cranium There are a few cases of leprosy, to which the authorities pay no attention whatever

The most common injuries to railroad men are the crushing of fingers and hands between the bumpers of freight cars These wounds almost always suppurate Injuries to the hands of machinists almost never suppurate Their hands are covered with grease and oil from the machinery, and if, when injured, they are bound up without washing they will usually heal by first intention

If there is to be a surgical operation at the home of a Mexican, all the friends and neighbors flock in to see it That is, as many of them as the size of the room will admit They consider the operation as a legitimate entertainment This is sometimes inconvenient on account of the crowding, and at other times rather disagreeable, because they feel it their duty to interfere when they think the performance has gone far enough It may be necessary to leave the doors open to the street, if this is the only source of light, as is often the case These people may not be able to read or write or count to ten, yet they assume to dictate when and where and how much a surgeon shall cut But why not? The Illinois Humane Society insists on being allowed to assume supervision over operations on animals, conducted by educated surgeons, and all the members of this society can, presumably, read and write and count above ten Surely the former case is not more absurd than the latter On one occasion three of us were actually attacked by members of a mob and had to defend ourselves with one hand, so to speak, and operate with the other

There are many hot springs in Mexico There is one about four miles from Silao, the water of which contains much sulphuretted hydrogen and has a temperature of 120 degrees F There are bathrooms maintained here and many people go out from Silao to bathe The bather will remain—I could not—in the water for five or ten minutes, then come out, wrap in a sheet and lie down In a few minutes profuse sweating begins which lasts ten or fifteen minutes At Amanjilla are a number of boiling springs Owing to the altitude, the water boils at 198 5 degrees F This water seems to be very pure, apparently containing almost nothing in solution There is a group of hot springs at Aguascalientes, the temperature in the different ones ranging from 84 to 104 degrees F These, and some still more famous at Santa Rosalie, are believed by the people to have great medicinal properties There are still others near the City of Mexico Some of these places will no doubt become famous resorts in the future

In a country where one may in an hour pass from the temperate climate of a high altitude to a tropical climate at the sea level, some curious effects are noticed As one goes down the mountains toward the coast, nasal and pharyngeal catarrh immediately disappears It comes back slowly on returning to the tableland after a few weeks' stay at sea level

Pneumonia on the coast is not feared and I could not find that it is ever fatal there Yellow fever remains the year round at Vera Cruz, but is much worse in summer than in winter The disease does not invade the mountains, but the people believe that it is fatal to remove a patient suffering with the disease to the elevated table land The lowland fevers are much dreaded by all who live at a high altitude I am inclined to think that these fevers could be largely, if not entirely, prevented by sterilization of food and water I think the name, bad air, (malaria), should be changed to bad water There are comparatively few springs and the drinking water comes from shallow wells, rivers, or even stagnant pools

Mexico is essentially a volcanic country and there are a great many places affording grand and beautiful scenery Probably no railroad on this continent affords more magnificent scenery than that to be seen on the Tampico branch of the Mexican Central No one making a trip to Mexico should fail to see this wonderful panorama Nature has here thrown up gigantic mountains and then as if ashamed of her roughness has clothed them to their very top with an impenetrable forest of trees and shrubs and vines Millions of brilliant tropical flowers of a thousand different varieties, enchant the beholder Any rock too rugged or bare to support a tree or shrub is covered with a smooth mantle of vines In many places white flowering vines covered the rocks and trees in such abundance as to look, in the gathering twilight, like drifted snow On one side of the train you may look down almost perpendicularly 1,500 feet to the river, the water of which is as blue as indigo On the other side, the same distance up to the forest clad mountain tops Here you may see at a glance coffee, vanilla, bananas, mahogany, rubber, orange, lemon, sugar cane, and an infinite variety of other trees and vines, making a jungle so dense that a man could scarcely penetrate ten feet from the road If the fevers of this country can be prevented or overcome, one need look no further for paradise Here the beggar—the most prominent feature of the high country landscape—disappears and the thief has gone to keep him company Here the maximum return is to be had for the minimum of labor Here nature is kind Here all creatures—except the plasmodium malariæ and the mosquito, appear to dwell together in harmony

THE IMPORTANCE OF URINALYSIS IN DIAGNOSIS

BY A B WALKER, M D
CONSULTING PHYSICIAN TO THE AULTMAN HOSPITAL
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Elimination of the worn out products of tissue change and the unappropriated parts of the food takes place from the body in the expired air, skin, feces and urine The oxidized carbon of the tissues by the lungs and cutaneous surface, the insoluble *débris* of the food excreted by the intestines, while the urine contains essentially the nitrogenous and other soluble products

The urine containing the watery constituents of the blood, with some dissolved salts, is one of the most important excretions from the body, and with our present knowledge of urinalysis much can be learned by its examination The changes which this secretion undergoes in health and disease have been studied since the earliest history of medicine Hippocrates taught the effects of food and drink upon this excretion, its variation in color, odor and transparency, attributing their changes to disease of the urinary organs Galen simply added to this knowledge the variations of urine in health

It was not until after the middle of the seventeenth century that any attention was paid to the chemic analysis of this important excretion, prior to that time attention was only given to its physical characteristics, as its appearance, etc

Cartungo in 1770 was the first to find albumen, Cruikshanks in 1798 pointed out the connection between its presence in urine and dropsy, still the relation of albuminuria to kidney disease was not appreciated until it was proved by Bright in 1827

Willis discovered sugar, and Rouelle in 1773 urea To Steele and Wallaston is due the earliest knowledge of the composition of urinary calculi

Since these important discoveries very many others have been made, as well as the improved modes for examinations They have also been so simplified that at present every physician and surgeon can have the apparatus and chemicals in his office and make the necessary chemic examination But when the urine is pathologic, that is, containing albumen, sugar, uric acid and phosphates in excess, or there is found evidence of pus or blood, a careful microscopic examination should be made by one of experience to ascertain the condition of the urinary organs, and, if possible, to determine the origin of the pathologic product

If physicians and surgeons would avail themselves of this important aid to diagnosis, much more good could be accomplished to their patients, many a life spared and thousands of dollars saved life insurance companies

As urinalysis requires but a few moments of time, and the results from it are so positive and true, we feel that no opinion of a case of any importance should be given without there having been made a careful examination of the urine

Many a case of Bright's disease might be prevented, if, when the first symptoms of the disease manifest themselves, a careful examination of the urine be made and the proper treatment and diet prescribed

Three years ago a young man at the age of 25 years consulted me, when, upon examination, I found evidence of incipient Bright's disease There was a small amount of albumen in his urine, with some tube casts and epithelium present His diet had consisted largely of nitrogenous food, as beefsteak and eggs A change in his diet to a more liberal use of vegetables and fruits, as well as the cereals, with some medicine to regulate his bowels and thereby relieve his over-worked kidneys, has wonderfully improved his condition, and at last examination, about six weeks ago, his urine was free from excess of albumen or any evidence of disease of kidneys

Many more cases of the kind might be given, as where there is sugar, uric acid or phosphates in excess in the urine, when, if detected early and their cause as far as possible removed, much good could be accomplished, lives prolonged, and cures very often performed

When pus is suspected to be present in the urine, the specimen should be examined with the microscope, to ascertain which part of the urinary tract it is from, and, with our present knowledge, this can be done, when the proper treatment can be given We should not make the mistake a noted physician in one of our large cities did quite recently, that of removing a normal kidney from a man who had suffered with pain in his loin, had frequent chills and passed pus with his urine A *post-mortem* in this case a few days later revealed the fact that he had had a chronic cystitis Had the urine in this man's case been properly examined, the diagnosis could have been made *ante* instead of *post mortem*, this man's life spared to his family and the surgeon's reputation in that community preserved

When the urine is thought to contain blood, the microscope alone will aid us as to its origin We have a damage case now in our courts of a man who was injured in a railroad wreck, who at times passes urine that looks as though it contained blood I had it examined by a microscopist, and he claimed it did not contain blood, as there were no blood corpuscles to be found I sent him another specimen, with the word that he was certainly mistaken, for nothing else would give it such an appearance but blood As this case had symptoms of having a floating kidney from traumatism, I was very anxious to know where this blood came from and to trace it to his kidney if possible His second report revealed no blood corpuscles in the specimen of urine, but that the specimen contained hematine in large quantities, which leaves us to infer, with a considerable degree of certainty, that the blood in this case came from his kidney The action of the urine on the blood evidently destroyed the corpuscles, leaving the hematine in solution, when if it had been from the bladder or urethra, the blood corpuscles would have been present

In every case where ether is to be given as an anesthetic, a careful examination of the urine should first be made to determine the condition of the kidneys, when if they show the least symptom of disease, it should not be given, for it is known to exert an unfavorable influence upon them Many cases of transitory albuminuria are noticed after ether has been administered, proving that it does affect the kidneys Then when the kidneys are in an advanced stage of disease, the ether is likely to cause a congestion of the organs and thereby prevent the elimination of urine, when death will surely be the result

The following case made a lasting impression on my mind—that of a young lady, who had a large ovarian cyst, that I was called by another physician to remove last April, and as there were no symptoms whatever of disease of her kidneys a urinalysis was not made The operation was quickly done, requiring but a few moments She took the ether as an anesthetic nicely and came out of its influence in a very short time Four hours later, about two ounces of urine was drawn from her bladder, which was the last and only urine secreted by her A *post mortem* examination two days later revealed both her kidneys in an advanced stage of Bright's disease The small part of the kidneys that had the appearance of having been physiologic before the operation was in a highly congested condition A urinalysis in this case would have undoubtedly shown a large amount of albumen, tube, casts, etc

I am surprised that all life insurance companies do not require an examination of the urine, even for their small risks I believe the time is not far distant when they will see the necessity and demand it in all cases Only last February, one of our local physicians examined and passed a man for one thousand dollars ($1,000) where a urinalysis was not required, who was in an advanced stage of Bright's disease of the kidneys At time of examination his urine contained over 30 per cent of albumen Six months later this man died from the effects of Bright's disease

A simple chemic urinalysis would have saved the company this risk, and the physician the embarrassment of having passed such a subject

45 W Tuscarawas Street

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D , LL D

NEW ORLEANS LA

(*Continued from page 84*)

CHAPTER III

Case 2—Yellow fever high temperature, 106 5 degrees in axilla, suppression of urine, black vomit, recovery, treatment, ice water injections to rectum, application of ice to epigastrium, sulpho carbolate of sodium internally Dominick Polmisano, age 18, native of Italy Has resided in New Orleans six years, residence St Anne Street near levee Black hair, black eyes, dark complexion Had a slight chill, followed by pain in the head and back and fever Oct 14, 1873 Entered Charity Hospital October 16, at 4 30 P M At this time the patient had high fever, hot skin, face very red with great capillary congestion of the surface generally Capillaries of conjunctivæ, greatly congested and of a yellowish tinge Body emits an offensive smell Breath very offensive Tongue red at tip and edge and coated with light yellow fur shading into brown in the center and root of the tongue Gums very red Patient complains greatly of severe pains in heart, epigastrium lumbar region and lower extremities At 8 P M, pulse 106, respiration 28, temperature of axilla 104 degrees

℞ Potassii bromid ʒij
Liquid ammoniæ acetates f℥iv
Mix Tablespoonful every four hours

October 17 8 A M, pulse 100, respiration 28, temperature of axilla 106 5 degrees Patient restless, complains of intense pain in the head, back, epigastrium and extremities Nausea Great congestion of capillaries of face and extremities Skin presents the appearance of a purplish and scarlet rash Conjunctiva injected and jaundiced Tenderness upon pressure over epigastrium Tip and edges of tongue red, coated in center, gums red Has passed no urine since entering the hospital when the catheter was introduced, only one fluid ounce of urine was drawn off, which upon chemic and microscopic examination was found to be loaded with albumen and bile, and casts of the tubuli uriniferi and excretory cells of the kidneys To control the nausea, an ice bag was placed over the epigastrium For the suppression of the urine *ice cold water was thrown up the rectum* in large quantities The injections of ice water had the desired effect, and caused the excretion and evacuation of a considerable amount of urine, which was heavily loaded with albumen and granular casts In order to prevent septic changes in the black vomit if it should be formed, I ordered the following

℞ Sodii, sulpho carbolate ʒi

Divide into three parts, one part (20 grains) dissolved in water, every three hours Brandy and carbonic acid water Ice and milk internally in small quantities at regular intervals Small fragments of ice to be held in the mouth

At 8 P M, condition unchanged, jaundice and nausea and restlessness increasing, urinary excretion very scarce Urine contains albumen, bile and granular casts and cells of tubuli uriniferi Pulse 98, respiration 26, temperature of axilla 104 1 degrees Continued ice bag to epigastrium, ice water enema, sodium sulpho carbolate, iced milk and brandy diluted with carbonic acid water

October 18 4 A M, the patient has begun to throw up black vomit Continued to eject black vomit at short intervals quite freely until 8 30 A M The sulpho carbolate of sodium appears to have exerted some beneficial effect, as the black vomit is of a brighter color than usual and contains coagula of blood [50] At 8 A M, pulse 82, respiration 28, temperature of axilla 102 1 degrees The supervention of black vomit has been attended by a reduction of the temperature Great congestion of peripheral capillaries Jaundice gums red, tip and edges of tongue very red, center and body of tongue coated with yellow and brownish yellow fur Blood oozed from tongue and gums A small quantity, about half a fluid ounce, of urine drawn off by catheter Urine loaded with albumen casts and excretory cells, also contains bile Patient delirious and very restless A strong man was ordered to sit by his bed, to keep him as quiet as possible and carefully covered, and to prevent him from rising and getting out of bed

℞ Sodii sulpho carbolate ʒij

Divide into six powders, one powder every three hours

Inject one pint of ice cold water into the rectum at intervals of four hours, until the kidneys act freely Apply ice-bag to epigastrium Apply sinapisms to back of neck and lumbar region over seat of kidneys Administer at regular intervals of two hours, alternately small quantities of brandy largely diluted with water charged with carbonic acid, and iced milk. Fragments of ice to be placed in the mouth The brandy and carbonic acid water appeared to increase the nausea and vomiting and were accordingly discontinued, the sodium sulpho-carbolate, on the other hand, appeared to quiet the stomach, and during the day the black vomit ceased and the patient enjoyed several hours of refreshing sleep At 6 P M, pulse 80, respiration 24, temperature of axilla 102 degrees Patient in much the same condition but not so restless The injections into the rectum of the ice cold water were followed by a pretty free evacuation of high colored albuminous urine Black vomit has ceased but nausea still continues Hemorrhage from the tongue and gums still continues Continue treatment

October 19 Condition of patient still alarming, great congestion of capillaries, the face presents a deep mottled purplish appearance, hemorrhage from gums and tongue No return of black vomit Kidneys excreting urine more freely Pulse 94, respiration 24, temperature in axilla 100 degrees Continue sulpho carbolate of sodium, 20 grains every three hours, also ice water injected occasionally if kidneys do not act freely Iced milk at regular intervals, also small quantities of borax and water charged with carbonic acid At 7 A M, patient apparently improving, intellect clearer, black vomit has ceased, nausea relieved, capillary congestion less, jaundice not so marked The ice-water enema caused a free discharge of high colored albuminous urine Pulse 76, respiration 20, temperature of axilla 100 5 degrees Continue sulpho carbolate of sodium, ice-water enema, iced milk and brandy and carbonic acid water, reapply ice-bag to epigastrium, nourishment of the patient has up to the present time been confined chiefly to iced milk

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[50] These results appeared also to be due to the local application of ice to the epigastrium, and the injection of ice cold water into the rectum which not only controlled the nausea but also reduced the excessive temperature

October 20, 8 A M, patient decidedly better, vomiting has ceased, no nausea, free secretion of urine, capillary congestion disappearing and jaundice less intense, pulse 68, respiration 18, temperature 99 5 From this date the improvement of this patient was steady, and on October 22 the capillary congestion had almost entirely disappeared and the coloration of the skin was far less intense Patient complains that he does not get enough to eat, says that he feels "bully" and putting his hand on his epigastrium says that his "*belly is hungry, and cries all the time for something to eat*" Continued to improve and was discharged The following is the record illustrating the relations of the pulse, respiration and temperature in this case

Date	Pulse		Resp		Temp		REMARKS
1873	M	E	M	E	M	E	
Oct 16		106		28		104 °	Fever
" 17	100	98	28	26	106 5°	104 1°	Jaundice, capillary congestion, albumen and casts in urine
" 18	82	80	28	24	102 1°	102 °	Urinary suppression, black vomit, hemorrhage from gums
" 19	94	76	24	20	100 °	100 5°	Black vomit, less urine, scant hemorrhage from gums
" 20	68	70	18	24	99 5°	100 1°	Vomiting arrested, urine more abundant
" 21	66	64	20	22	100 °	100 °	Improving, hungry, urine abundant
" 22	62	60	20	19	99 °	99 8°	Continues to improve
" 23	62	66	20	24	98 9°	99 4°	Convalescent, sitting up, cheerful, bright expression of eyes

The restoration to health was rapid and complete

Case 3—Yellow fever, sudden rise of temperature, treatment, sulpho-carbolate of sodium and quinin, recovery Wm H Williams, native of New Orleans, age 26 Entered Charity Hospital, Ward 27, on the night of Nov 8, 1873 Patient states that he has been at work for some two months near the city on dredge boat, cleaning out a canal On the previous day had a chill, followed by high fever and delirium, and in this condition was brought to the hospital The patient was ordered tablespoonful of the liq ammoniæ acetates, every three hours November 9, patient is more rational and complains of intense pain in the supraorbital region, along the spinal column and in the thighs and knees Conjunctiva of eyes congested Considerable capillary congestion of surface with marked jaundice Gums red, inflamed and bleeding, tongue red at tip and edges, furred and fissured in center and bleeding Body emits a disagreeable odor M, pulse 84, respiration 30, temperature 98 5 degrees Ordered 20 grains of the sulpho-carbolate of sodium, every three hours Evening, patient in much the same condition but restless Temperature 100 5 degrees, pulse 96, respiration 27

November 10, urine scanty and loaded with albumen and casts of tubuli uriniferi Pulse 80, respiration 30, temperature 101 degrees Ordered continuance of sulpho carbolate of sodium, also ice-water injections into the rectum Evening, pulse 144, respiration 40, temperature of axilla 106 degrees Urine scanty and loaded with albumen, high fever, vomiting I was unable to account for this sudden rise in the temperature

November 11, fever has subsided and the patient appears to be much better M, pulse 96, respiration 36, temperature 98 degrees Evening, pulse 93, respiration 30, temperature 98 5 degrees Ordered 10 grains of quinin every three hours Continue sulpho carbolate of sodium, 20 grains every four hours Milk punch and whisky diluted with carbonic acid water

November 12, pulse 96, respiration 36, temperature 98 degrees Evening, pulse 108, respiration 34, temperature 99 degrees

November 13, M, temperature 101 degrees, pulse 78, respiration 24 Evening, temperature 99 5, pulse 78, respiration 24

November 14, patient improving M, temperature 97 5 degrees, pulse 69, respiration 21 Evening, temperature 97 degrees, pulse 63, respiration 20 Continue quinin 5 grains three times daily, also sulpho carbolate of sodium

November 15, M, pulse 60, respiration 18, temperature 96 5 degrees Evening, pulse 60, respiration 20, temperature 97 degrees

November 16, patient improving rapidly, albumen has disappeared from the urine Temperature 98 degrees, pulse 60, respiration 22 Continued to improve Discharged December 12

Case 4—Yellow fever, high temperature, 106 5, jaundice, slow pulse, treated with sulpho-carbolate of sodium, 20 grains every four to six hours, sulphate of quinia, ice-water injections and brandy diluted with carbonic acid water and iced milk Recovered Tully Brown, stout strong man, large muscles, brown hair, dark eyes Has been in America five years Has been working on the Mississippi River during the past year, occupation laborer Patient states that he was seized with a chill Oct 25, 1873, at 9 P M The chill and fever returned October 26 and 27 Admitted into Charity Hospital, Ward 24, Oct 29, 1873 The following is the record of the pulse, respiration and temperature

Date	Pulse		Resp		Temp		REMARKS
1873	M	E	M	E	M	E	
Oct 29	88	96	20	28	106 2°	106 2°	Some pain in head and back, skin hot and pungent peripheral blood vessels congested conjunctiva congested bowels constipated tongue red at tip and edges, and coated with brown fur in center, ℞ Quinia sulph ℈i divide into two parts, one every three hours
" 30	52	90	20	28	100 5°	104 2°	The quinin, 20 grains, appears to have reduced temp and frequency *of pulse, but not permanently* patient sweating profusely and general appearance imp'd, tongue less red and coated Continued quinin, chill at 10.30 A M
" 31	78	92	25	26	106 5°	105 °	Urine scant and loaded with albumen and casts, restless, complains of pain in head and back jaundice, nausea slept but little during night, quinin, sulph carb of sodium and ice cold enema to bowels ℞ Quinia sulph ℈iss, pulv rhei, ℈i divide into three parts, one every three hours
Nov 1	74	78	24	26	101 5°	102 5°	Patient no better not so restless, urine less abundant ice water enema appears to have been beneficial less nausea, skin yellow capillary congestion of extremities albumen and casts in urine, continued sulpho carb of sodium, urine suppressed, complains of pain in abdomen, repeated ice water enema.
" 2	*76*	*76*	*24*	*24*	*101 8°*	*101 8°*	*Restless pain in head and abdomen* urine albuminous but more abundant continued sulph carb, of sodium
" 3	84	72	24	22	102 °	102 °	Dull countenance, slept but little during past three nights bowels constipated urine scant jaundice capillaries congested, quinia and sulpho carb of sodium
" 4	59	70	18	20	100 °	98 5°	Improving, urine more abundant, ice cold enema appears to have been beneficial
" 5	64	56	22	20	99 8°	98 8°	Slept well during night, in profuse perspiration albumen diminishing in urine, which is more abundant
" 6	62	58	18	20	100 °	98 8°	Albumen disappeared from urine continues to improve passed about 82 fluid ounces urine in last 12 hours
" 7		62		18		100 5°	Countenance more natural, improving
" 8	60		20		99 8°		Tongue moist and clearing off appetite good rests well skin moist steady improvement
" 9	60	54	25	18	100 2°	99 5°	Improving
" 10	62	66	20	18	98 8°	100 °	Convalescent
" 11	60	62	18	20	99 5°	99 8°	
" 12	64	60	16	16	99 8°	99 5°	
13	62	76	20	20	100 °	98 8°	
" 14	60		17		99 8°		Discharged November 15

Case 5—Yellow fever, jaundice and slow pulse, urinary suppression relieved by ice water injections, sulph carbolate of sodium internally Adolph Kammer, age 21 native of Sweden, has been in America six years, in St Louis, from which place he came to New Orleans Resided at 153 Levee Street, near the French Market Had been in New Orleans one week when he was attacked with fever Entered Charity Hospital, Oct 1, 1873, Ward 13, on second day of disease Tongue red at tip and edges, and furred in the center, gums red, conjunctiva congested, skin hot and dry, patient restless and complains of intense pain in the head and back The following is an outline of this case

Date	Pulse		Resp		Temp		Remarks
1873	M	E	M	E	M	E	
Nov 2	84	82	[illegible]	[illegible]	101 6	10[illegible]	Skin hot and dry slight jaundice gums congested tongue dry and swollen kidneys acting imperfectly Although temp in evening reached 10[illegible]° pulse was only 82
3	8[illegible]	86	32	34	102	10[illegible] 5	Passed a small quantity of urine by the catheter urine loaded with albumen and contained many yellow granular casts resp rapid and irregular, and patient appears in great danger Ice water injections per rectum appeared to do good caused excretion of some urine In evening complained of pain in epigastrium, which was relieved by ice bag to epigast m
" 4	72	70	28	[illegible]	101 [illegible]	102	During night hemorr from gums passed urine quite freely towards morning urine dark colored and loaded with albumen and bile on [illegible]d patient was placed on sulpho carb of sodium 20 grs every 4 or [illegible] hours milk punch brandy and beef tea and fragments of ice in the mouth
" 5	51	48	2[illegible]	21	98 [illegible]	101	During 4th perspired freely and appeared to be improving became much more quiet sedative water to the surface appeared to quiet him greatly on [illegible]th passes urine freely, looks more cheerful and is improving jaundice well marked but less
" 6	[illegible]2	[illegible]0	2[illegible]	22	98 [illegible]	98	[illegible] a very comfortable night jaundice disappearing urine abundant still contains albumen but amount is diminishing
7	46	60	22	21	97 [illegible]	98 [illegible]	Sitting up all pain has disappeared complains of nothing but a cough which at times annoys him appetite good sleep quiet and refreshing jaundice disappearing
" 8	45	[illegible]	22	2[illegible]	97 7	98	During coughing spat up some dark blood as there was no congestion of lungs and no rise of temperature the blood was supposed to have come from mouth and throat Albumen disappeared from urine
" 9	[illegible]2	50	26	27	97 8	98	Is up and walking in ward Continues to improve
" 10	48	48	20	19	98 [illegible]	98 2	Continues to improve
11	52	[illegible]2	2[illegible]	21	98	98 7	Jaundice disappearing rapidly very slight tinge in skin and traces of yellow in eyes
" 12	[illegible]	5[illegible]	21	21	98	98 2	Gains strength rapidly
" 13	[illegible]2	4[illegible]	2[illegible]	21	98 [illegible]	98 [illegible]	Discharged from hospital Oct 17

Case 6—Yellow fever, jaundice, urinary suppression, delirium, treatment ice cold injections, sulph carbolate of sodium, urinary excretion reëstablished, recovery John Pflum, age 26, native of St Louis, laborer Entered Charity Hospital, Ward 25, Oct 1 1873 Had a chill succeeded by high fever and pain in head and back The following observations were made

Date	Pulse		Resp		Temp		Remarks
1873	M	E	M	E	M	E	
Oct 20	78	74	28	26	101 5°	104 5	Pain in head and back nausea tongue red at tip and edge coated in center conjunctiva congested gums red and swollen face flushed capillaries of face, chest and extremities congested high fever intense thirst passes very little urine and with great effort Iced milk and ice in mouth
" 21	72	76	21	26	102 °	103	Bowels constipated, passes urine with great difficulty and experiences much pain in micturition Pain in head lumbar region and lower extremities nausea and vomiting tongue very red at tip and edges and coated in center, gums swollen and very red mind heavy and confused urine scant, albuminous Ice water injections and sulpho carb of sodium
" 22	66	72	22	21	101 1°	103 °	Gums red, swollen and congested tongue softer and not so red urine contains albumen and casts shows acid reaction conjunctiva and surface yellow nervous, restless Ice water injections and sulpho carb of sodium
23	66	70	23	24	100 °	100 °	Improving not so nervous tongue clearing urine albuminous but more abundant Continue sulpho carb of sodium ordered also sulphate of quinia
" 24	61	70	21	22	100 1°	101 1°	Continues to improve urine albuminous with casts but more abundant has some appetite patient still very weak continue quinia and sulpho-carb of sodium
" 25	62	62	22	20	99 8°	101 °	Improving Sulpho carb of sodium continued 20 grains every eight hours, as before
" 26	61	60	23	23	99 1°	99 7°	Improving continue sulpho carb of sodium tongue clearing off skin clearing off hungry
27	60	59	22	18	97 °	98 5°	Improving although the urine is still loaded with albumen and casts urine much more abundant and returns to normal standard and sat up during the day
" 28	60	56	18	20	97 6°	98 °	Continues to improve, albumen disappears from urine
29	60	76	18	21	98 °	98 6°	Tongue clear and very near normal in appearance, urine abundant is up and dressed
30	60	62	18	21	98 8°	100 5°	Bowels regular urine abundant patient says that he feels well walks about the ward
" 31	60	60	18	28	99 1°	100 °	Patient expresses himself as feeling well
Nov 1	68	68	20	20	99 5°	99 5°	Discharged in good condition November 10

It is of interest to note that on October 22 the injections of ice cold water were ordered and repeated three times After the third injection, the patient passed quite a considerable amount of urine and fell into a refreshing sleep The sulpho carbolate of sodium, 10 grains every two hours, appeared to relieve the nausea The patient slept well during the night and was able to drink a cup of milk and another of beef tea

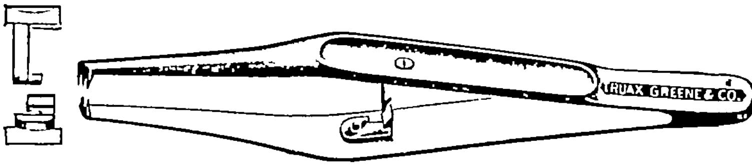
(To be continued)

THE AUTOMATIC TISSUE FORCEPS

BY EMANUEL J SENN, M D

CHICAGO

The automatic tissue forceps which I have devised, will be found to be an instrument of great utility in operative work and also one of precision It is made of English steel, and consists of two blades which terminate in teeth Midway between the extremities of the blades is the catch, which locks and unlocks automatically, synchronously with the grasp or release of tissues



The instrument is operated with the thumb and index finger of the left hand with the same ease as in the use of the ordinary tissue forceps Pressure sufficient simply to pick up the tissues is all the force required to lock the blades This is at a minimum, as the blades possess great elasticity and consequently accommodate themselves to the "bite" of tissue, whether large or small

To disengage the blades and release the grip, simply give them another gentle squeeze, when the catch unlocks

This forceps possesses several advantages In tedious dissecting, the thumb and index finger do not become fatigued, as the case with the ordinary forceps During an operation, if the hands are necessary to manipulate some other instrument meantime, the forceps can be dropped with its "bite" of tissue intact and ready for subsequent dissection The mind of the operator or assistant does not have to be constantly concentrated on the instrument in order to insure its hold, the catch fulfilling that office

The instrument was manufactured for me by Messrs Chas Truax, Greene & Co, Chicago

SOCIETY PROCEEDINGS

Chicago Pathological Society

Regular Monthly Meeting, Nov 11, 1894

RANDOLPH N HALL, President, in the chair

DR J B HERRICK reported a case of

GRAVE ANEMIA

for which no other cause could be assigned than a severe nervous shock following an injury to the spine The patient was a woman, 63 years of age, always in good health up to one year ago, leading an active busy life There was no hereditary taint, no history or evidence of syphilis In November, 1893, she fell to the sidewalk, hurting her back and left side, she walked home, but almost immediately after this injury became weak, physically and mentally The legs began to bloat, she easily became dizzy, had fainting spells, was unable to walk for any great distance, became pale Notwithstanding this, the appetite remained good The bowels were somewhat constipated She was admitted to the Presbyterian Hospital Her complaint of vague pains, of weakness of the arms and legs, of mental deterioration, for all of which she assigned the injury as the efficient cause, coupled with the fact that there could be discovered no evidences of organic lesion to account for such phenomena, and also with the fact that she referred often to a $2,000 accident insurance claim which she had placed in the hands of a lawyer for collection, led to a suspicion of exaggeration of symptoms, as in traumatic neurosis or railway spine, if not to a suspicion of malingering The increasing pallor of the skin led later to an investigation of the blood and a more thorough examination of the patient

The skin was yellowish-white, dry, panniculus adiposus scanty, patient talked slowly, moved hands and legs slowly, seemed weak, unable to walk or stand unsupported, complained of dizziness on being put in the erect posture Numerous retinal hemorrhages in either eye Lungs negative, systolic hemic murmur over heart, systolic hum over vessels of the neck, abdomen flabby, stomach resonance apparently increased in extent, stomach when inflated with air apparently enlarged, lower extremities, rectum, pelvic organs, bones, negative Stomach contents show no free hydrochloric acid, no mucus, no remains of previous meal There was no vomiting, no disturbance of nervous system Urine 1012, acid, no albumin, no sugar, no formed elements, amount from thirty to fifty ounces, solids, 660 grains Blood pale, marked poikilocytosis, microcytes and macrocytes, a few normoblasts, and megaloblasts, leucocytes relatively increased, particularly the lymphocytes Red corpuscles 666,666, hemoglobin (Fleischl) 25 per cent Temperature varying during two months of observation from subnormal to 102 degrees Diagnosis Pernicious anemia, cause, probably nervous shock consequent upon injury Atrophy of stomach not positively excluded Dilatation of the stomach believed to be due to atonic condition of muscular wall consequent upon severe anemia Dr Herrick recalled two cases of nervous disease, one a case of cerebral hemorrhage with aphasia and hemiplegia, one a case of sunstroke with marked cerebral symptoms, in which profound and fatal anemia had resulted He also cited cases reported by others, as, for instance, Curtin, Musser, Schüle, Brigidi, Pokrowski, and others, in which profound—and in many instances fatal—anemia had followed organic disease of the nervous system, or in some instances severe mental strain or shock The patient had recently been put upon Fowler's solution, and later developments would, it was hoped, clear up one or two very interesting but as yet misty points The report had been made perhaps a little prematurely, yet the occasion seemed so peculiarly fitting when other cases of diseases of the blood were to be brought to the attention of the Society, that he had ventured to bring the case thus early to the attention of the members

VIDA A LATHAM, F R M S, D D S, presented a

REPORT OF A CASE OF LEUKEMIA

Mrs X, age 52, nativity, Welsh, occupation, housewife Previous history Patient has been married for a number of years, has had no children The family lived in easy circumstances The patient said she had malaria (?) at school during childhood, and it was prevalent where she lived in the State of Ohio Duration of illness General malaise and indifferent bad feelings for one year, she only noticed the enlargement of abdomen three months previous to her death Clinical signs and symptoms Night sweats with some temperature of slight degree, usually below 100 degrees, only once rising to 103 degrees The kidneys were not affected, neither were the liver nor lymphatic glands enlarged

The bones were not tender or painful Emaciation was marked, as was the pallor of the face and skin Some ascites and edema occurred shortly before death The apex beat was displaced upward The diaphragm was pushed upward

The spleen was hard, and extended to within two inches of the right anterior iliac spine, about on a level with it, also across the hypogastric umbilical and left inguinal regions, the notch of the spleen being about two inches to the left of the umbilicus at its level There was a marked bulging between the left twelfth rib and the iliac crest and complete dullness on percussion in the left lumbar region posteriorly There was obstruction of the intestines at one time, but her main symptoms were due to pressure—constipation, dyspnea and pain This patient lived in the lowest part of A——, where the soil is always wet and drainage poor During all her sickness—over a year—the street was dug up, for the building of a very deep outlying sewer There were no other similar cases known The blood which I examined through the kindness of Dr Mary J Kearsley, was spread on covers and examined by various methods, using dry air, fixing by heating on a copper plate, bichlorid of mercury, ether and absolute alcohol, chloroform, and staining in alcoholic eosin, counterstaining with methyl blue, methyl green, Rieder's method of eosin carbol glycerin and Delafield's hematoxylin, Czenzynski's stain, Ehrlich's hematoxylin and eosin, Ehrlich's Biondi triple stain, etc The following forms were met with Lymphocytes, especially the polynuclear kind, myelocytes, many with neutrophile granules, eosinophiles and very large mononuclear leucocytes. The red blood cells were paler than normal and variable in size The proportions were one leucocyte to seventeen red blood cells

About a month afterwards, I made another examination at the bedside with Dr Kearsley The blood with Gower's hemocytometer gave the red cells as 2,000,000 per centimeter or 40 of the normal, taking in each examination 1 600 as the normal blood ratio between red cells and leucocytes

Hemoglobin with Fleischl's hemometer 18 per cent, taking 85 per cent as the normal estimate

Tho blood was very pale, but greasy, resembling marrow in the way it spread when trying to make the films Cultures were also made, and round colonies of streptococci which grew best on glycerin gelatin agar were obtained One tube of glycerin agar gave a streaked growth of a grayish white color, covers from which showed a minute bacillus The further study was prevented unfortunately through the patient falling into the hands of a quack who suggested an operation as offering a cure The patient was removed to a private hospital in spite of the family physician's advice and soon after her arrival the rectal anus was dilated and the patient died in a few hours from uncontrollable hemorrhage of the bowels

Dr I H Tiney read a

REPORT OF CASES OF LEUKEMIA AND PERNICIOUS ANEMIA

In the following reports I have to thank Dr Jas B Herrick for valuable suggestions, Dr E R LeCount for aid in the pathologic work, and Dr D D Bishop for excellent instruction

Case 1 Leukemia —M K, age 43, female, married Born in Ireland and lived there until five years ago and since then has lived in America Menstruated at 16 and was perfectly normal until six months ago, since when it has been absent Had children's diseases when small Denies venereal history Was married at 31 had a miscarriage at third month of pregnancy without any known cause There was no subsequent pregnancy Father died at 50 years of age, of some acute illness Mother died at 30 years of age in confinement One brother is living and 10 years of age No brother or sister dead

Present Illness —Ten months ago was attacked with a sharp and quite severe pain in the left iliac region which persisted for three days, then disappeared only to return again in three weeks For last two months has been free from pain During past three weeks, feet and legs have been swollen She complains only of weakness There is no pain, vomiting, nausea or fever Bowels are regular

Physical Examination —A woman of slight stature, fair complexion, marked paleness of visible mucous membranes and finger nails Tongue slightly coated Eyes and ears negative, pulse 106, temperature 102 2, respiration 24 Chest, lungs and heart negative Liver dullness extends from fifth rib in nipple line to one inch below costal arch Tenderness over the sternum Abdomen There is marked prominence of the left lumbar and epigastric regions A mass can be felt occupying these regions, its anterior border extending in a curvilinear direction from the eleventh rib downward to the umbilicus, encroaching on the hypogastrium Over this mass there is dullness, extending to the inferior angle of the left scapula posteriorly A coarse friction sound is heard over the upper part of the dull area Vaginal examination revealed nothing of interest The feet and legs are edematous

Urinalysis —Specific gravity, 1015, no albumen, no sugar, microscopically negative

One month later, July 20 1894, an examination of the blood showed 50 per cent hemoglobin An increase in the white corpuscles was noted, but no count made On Sept 5 1894, the blood was examined and gave hemoglobin 40 per cent, red corpuscles 1,650,000 per cmm, white corpuscles 184,000 per cmm

Stained Blood Preparations —Cover glass smears were fixed by heat, absolute alcohol and ether, absolute alcohol, and corrosive sublimate, and then stained by means of solutions of eosin, methylene blue, dahlia, safranine and Ehrlich's Biondi triple stain As regards the red cells, there was a variety of sizes varying from normal to twice the normal size They assumed a variety of shapes—poikilocytosis There were nucleated red cells of the normal size (normoblasts), and larger ones (megaloblasts), and many contained more than one nucleus Free nuclei were seen, having escaped from the corpuscles and at first appearing as leucocytes There were a few polychromatophilics The differential count of the white corpuscles gave small mononuclears 2 per cent, large mononuclears 7 per cent, polynuclear neutrophiles 50 per cent, eosinophiles 5 per cent, and myelocytes 36 per cent

On Sept 26, 1894, a systolic murmur was detected over the base of the heart to the left of the sternum On Oct 11, 1894 the blood examination gave hemoglobin 30 per cent red corpuscles 1,134,000 per cmm, white corpuscles 644 000 per cmm On Oct 12, 1894, she rapidly became worse and died at 7 P M At no time after admission did she have a temperature above 101 4 F by mouth

NECROPSY

Twenty hours after death Emaciation quite marked Heart was negative as to valves and walls Its auricles contained large light chocolate colored clots Lungs were negative except an area of broncho pneumonia in the right middle lobe There were firm adhesions about the spleen and liver, liver weighed 3,650 grams Its section was through a fairly resistant though friable tissue, its lobules were indistinct having dark centers and light peripheries Bile passages were patent The kidneys together weighed 350 grams There was a small infarct in the right one, but otherwise they were negative The spleen weighed 1,850 grams, and measured 23x11x13x10x7 cms There was a scar on the right lower border (4x2½ cm) limited to the capsule Over the upper and posterior part was a yellow area of depressed tissue measuring 10x5 cms On section it was seen to extend into the spleen a distance of three cm There was a similar but smaller area on the anterior aspect of the organ These areas on section had the appearance of cream cheese Otherwise the section of the organ was uniformly grayish-red The bone marrow was pale and the bone soft

Microscopic Examination —Tissues were hardened in alcohol, imbedded in celloidin, and the sections were stained with hematoxylin and eosin, also with eosin and methylene blue Pancreas Great excess of leucocytes in vessels, none in the tissues Liver has an alveolated appearance, the network composed of rows of liver cells, the meshes of capillaries in a state of extreme dilatation The relation of liver cells to capillaries is as 1 to 2 All the capillaries and smaller vessels are completely filled with leucocytes, no red cells or remains of red cells being seen There is pigmentation of liver cells with brown pigment, also there are hemosiderine granules about the central veins The liver cells show degenerative changes to a small extent, staining markedly with eosin, and cells being seen with well stained, faintly stained and unstained nuclei In areas there is marked compression of liver cells the rows of cells being no thicker than sixteen micromillimeters and lying between dilated capillaries The portal sheath connective tissue and vessel walls are invaded by leucocytes which stain deeply with hemotoxylin Kidneys There is a slight brown pigmentation of under layer of capsule The glomeruli fill the capsules, as a rule, and contain an excess of nuclear elements This excess is apparently due to small irregular darkly staining cells In the capillaries there is a condition corresponding to that in the liver, the tubules being compressed and rarely possessing a lumen There are a few degenerative changes in the epithelium of the convoluted tubules There is also an excess of leucocytes in the larger vessels, and some of the medium sized vessels are filled to distension with leucocytes There are no leucocytes in the collecting tubules Excess of connective tissue in the pyramids in the shape of hyaline intertubular framework is noticed Spleen There is an increase of the connective tissue confined mostly to the finer network The capsule is thickened and just beneath it the tissue contains brown pigment Malpighian bodies are few and smaller than normal There is almost an entire absence of red blood corpuscles There is a small amount of golden brown pigment in the form of granules lying in the connective tissue framework and at times in the spaces or in the cells

Lungs There are areas of tissue where the spaces are entirely filled with darkly staining cells, other areas in which the lung structure has entirely disappeared, and in still others the alveolar walls can be seen Between such areas there are regions of compressed and deformed alveoli, filled with a faintly staining granular substance In the areas of consolidation the cells are large and show no signs of fragmentation or degeneration In the areas where alveolar walls still remain, the alveolar contents are mostly polynuclear leucocytes with here and there in the peripheries large cells with a single nucleus The alveoli with glanular contents show heavier walls than usual, due to the dilated capillaries Bronchioles when seen are filled with granular homogeneous material in which are large numbers of leucocytes

Heart muscle It presents a peculiar appearance due to rows of nuclei separating the muscle fibers The muscle fibers are compressed by dilated capillaries Poor staining of the muscle is marked and general In many places there are alternate rows of muscle fibers and leucocytes, frequently the row of fibers is only one or two fibers wide

Case 2 Leukemia —W T, age 19, male, teamster Father died of "paralysis," otherwise family history is negative Venereal history denied Uses alcohol moderately One month ago he received an injury to his right leg, which was followed by suppuration An incision was made and there is still an open wound Four days before admission had an attack of diarrhea and vomiting Has no pain Has shortness of breath and palpitation of the heart

Physical Examination —Body is emaciated, conjunctivæ injected, tongue slightly coated and moist, lips and gums pale Chest Lungs are negative The heart is very slightly enlarged and a blowing systolic murmur is heard just to the left of the sternum in the third interspace which is not transmitted Abdomen The liver dullness extends in the mammillary line from the sixth rib to one inch below costal arch Spleen is easily palpable, extending forward to left parasternal line at the costal arch and below one inch below the umbilicus A small notch is felt in its anterior border It is moved by posterior pressure No enlarged glands, no tenderness over bones Blood examination gave red corpuscles 3,064,000 per cmm, white corpuscles 848,000 per cmm The hemoglobin was not estimated The differential count of the white corpuscles gave small mononuclears 3 per cent, large mononuclears 8 per cent, polynuclear neutrophiles 60 per cent, eosinophiles 6 per cent, and myelocytes 23 per cent

A few days later he left the hospital and passed from observation

Case 3 Leukemia —H H, age 37, male, farmer, admitted Nov 1, 1894 Family history good Born and raised on a farm in Wisconsin Does not use alcohol or tobacco Venereal history denied Had typhoid fever twelve years ago, pneumonia three years ago One year ago was kicked in ribs over spleen Present illness For some time he has complained of weakness and inability to endure heat Three weeks ago was attacked with headache, weakness, and sensation of fever sufficient to cause him to stay in bed A few days later he noticed a swelling in the abdomen, and a yellowness of the skin He now complains of shortness of breath at times and palpitation of the heart He has had no hemorrhages

Physical Examination —Body fairly well nourished, conjunctivæ slightly yellowish, tongue pale and coated Skin has a yellowish tint and on cheeks are several petechiæ Heart, not enlarged A blowing systolic murmur heard equally well in all areas and not transmitted Lungs were negative Spleen, extends from eighth rib at inferior angle of the scapula to the median line in front and one inch above the umbilicus, with a distinct notch just above the umbilicus Liver extends from sixth rib to one inch below costal arch in mammillary line All the lymphatic glands are enlarged, the post-cervical exhibiting the enlargement to the greatest degree

Blood Examination shows hemoglobin 20 per cent, red corpuscles 1,050,000 per cmm, white corpuscles 108,324 per cmm The differential count of the leucocytes gives small monuclear 3 per cent, large mononuclear 8 per cent, polynuclear neutrophiles 64 per cent, eosinophiles 6 per cent, and myelocytes 19 per cent

He left the hospital in a short time and further study became impossible

Case 4 Pernicious Anemia —M O, age 50, female, single, Admitted Oct 23, 1893 Mother died of stomach trouble Several of the family suffered from rheumatism Menstruated at 16, and was always regular until present attack when they stopped Does not use alcohol Venereal history denied Has had no previous illness Present illness Four months before admission she suffered from headache, pain in the epigastrium especially following the ingestion of food, anorexia, vomiting, diarrhea, edema of the legs, feet and eyelids

Physical Examination —Nourishment is poor, skin a waxy color, tongue moist, all visible mucous membranes pale Lungs are negative Heart Area of dullness is increased, apex beat is two inches below nipple in nipple line A murmur, systolic in time, is heard at the apex and transmitted to the left axilla Liver dullness begins in fourth interspace and extends to border of costal arch There is tenderness in the epigastrium Feet and legs are edematous Pulse 104, temperature 99 4, respiration 20

Urinalysis —Dark and cloudy, specific gravity 1027, considerable albumen No casts found A little later granular casts were found During the year from admission until Oct 1, 1894, her symptoms were those resulting from her nephritis, but they improved with the improvement in the renal condition The latter part of the year, albumen and casts were absent, except for a short time before death when a trace of albumen was present During the year there was considerable trouble referred to the stomach, especially after eating

Physical Examination on Oct 16, 1894 Lungs negative Heart, the apex is in the fifth interspace in the anterior axillary line Liver dullness extends a little below costal border There is extreme tenderness in the region of the gall bladder also in the epigastrium Spleen is not palpable Eyes Retina is pale, otherwise negative Gastric contents after test breakfast revealed no hydrochloric acid, very slow digestion, great excess of mucus

Urinalysis —Twenty-four hour specimen—clear, specific gravity 1010, slight trace of albumen, no casts, total solids, 297 grains

Examination of Blood shows hemoglobin 30 per cent, red corpuscles 738,000 per cmm, white corpuscles 8,000 per cmm

In stained preparations were noted well marked poikilocytosis, and large and small nucleated red corpuscles There was a slight increase in the white corpuscles

The patient gradually grew weaker and died Nov 7, 1894

NECROPSY

Peritoneal, pleural and pericardial cavities filled with a transparent yellowish fluid There is slight hypertrophy of left ventricle and a little thickening of the aortic valves at their bases and of the mitral valves at their free margins The lungs were negative The liver weighs 1900 grms and the surface is granular at its edges The cut surface is granular, the lobules having pale centers and dark peripheries There are no large bands of connective tissue Gall passages are patent

The Spleen is slightly enlarged, its cut surface being mottled from the presence of perceptible whitish Malpighian bodies The kidneys showed marked atrophy of the cortex with some yellowish streaks, the glomeruli not being visible

The Stomach has no rugæ, the level of the mucous membrane is below that of the esophagus, and is very thin

The Intestines were negative There was injection of the internal layer of the dura mater, and a covering of fibrinous exudate There was atrophy of the cerebral convolutions The general muscles were very pale and flabby

The microscopic examination is left for a later report

DISCUSSION

Dr I N Danforth—I can add nothing to what I have stated in a paper which has been published lately with reference to pernicious anemia I will say, however, that I am experimenting on the treatment of pernicious anemia, or rather anemia of various types in my wards in St Luke's Hospital and hope by and by to report the results, but for the present I have said everything I know in the paper already published I have been greatly interested in the papers tonight, and as the papers by these younger men were being read I was thinking how we have moved along in the past ten years It is about ten years ago when this Society met in my parlors about half a dozen of us, to bury the Society, to hold a funeral service over it, but instead of doing that they elected me President, and from that time the Society began to flourish as several of the members rallied around me, and it has now grown to be this large and flourishing body The papers read tonight evidence the growth of the Society and it is very pleasant indeed to me to meet these younger men, to see how they are pushing things along and to listen to these learned and exhaustive papers on leukemia and the anemias The writers of the papers did not say anything about the presence or absence of the plasmodium of malaria I suppose that the blood was examined for that, if not, I should regard it as rather an oversight and would suggest that it be done because I believe it to be a very important factor in the diagnosis But the most important thing in practice is the treatment of these anemic cases

Dr G F Butler—The pathology and diagnosis of this disease has been thoroughly discussed, and as the natural bent of my mind is towards the therapeutic side of the case I will only discuss the therapy From recent literature I have read on the subject of pernicious anemia and leukemia, it is evident to my mind that bone marrow now leads the procession in the medicaments for pernicious anemia When ever a new remedy is announced, the agent is applied to the treatment of disease and a verdict often rendered which gives an erroneous impression as to its true value The first formulas are often given forth by physicians who are more enthusiastic than logical and more sensational than exact So numerous are the fallacies of experiment and clinical experience that the painstaking therapist must read carefully the testimony in all of these cases, and examine with the same jealous care into the efficiency of the new remedy as the old We all know that a true understanding of the therapeutic art must be upon an exact etiology and pathology but at the same time a great many empirical facts are well founded upon professional experience and these well established facts should not be overlooked I am therefore not prepared to disparage bone marrow as a remedy in pernicious anemia, but I would ask, Is the curative value of bone marrow a well established fact in the treatment of pernicious anemia, and indeed I would ask if there is anything in the recent literature on the treatment of pernicious anemia or of leukemia that is new? In every case I have read about, arsenic has been given in conjunction with bone marrow We know that arsenic has been a valued remedy in the treatment of anemia for many years and there are many recorded cases of recovery under its use Is it not quite possible that these reported cases of recovery have been due as much to the arsenic as the bone marrow, and even more? When a genuine case of pernicious anemia continues to rapidly improve upon bone narrow alone, then I will be ready to class it as a valuable remedy in this disease, when bone marrow has to its credit as large a number of recoveries as arsenic, then I will be ready to accord to it the virtues claimed for it by its enthusiastic supporters Since bone marrow has struck Chicago there have been more cases of pernicious anemia reported than ever before in its history I have found, not in my own practice, but by information from other doctors, a number of cases of anemia this last week, which some have claimed were pernicious, that have rapidly improved under the administration of bone marrow, and arsenic with iron on the side I have had quite a number of cases of simple anemia and chlorosis that improved upon a mixture of the three chlorids of mercury, iron and arsenic, with codliver oil, and it seems to me if I had given kumyss with the other remedies I might have boomed that in connection with this disease I am inclined to think that kumyss is as good a remedy as bone marrow It is nutritious, easily digested and an intestinal antiseptic, and if given in connection with arsenic and good hygienic treatment it is a combination which will prove as useful as bone marrow and arsenic I think thus far there has not been a case treated by bone marrow alone, at least I have not learned of any, and I am inclined to think that this remedy is perhaps of very little more value in the treatment of this disease than the so called animal extracts which have been recently introduced These extracts, given with the view of curing disease, appear to me to be about as sensible as to attempt to increase the weight and fiber of a tree by manuring it with fresh sawdust I think bone marrow nothing more than a nutrient fat and it possesses no more advantage than cream or codliver oil It seems preposterous to me, even admitting for the sake of argument that the structural disturbance of the bone marrow is the origin of the disease, that by eating calves' or hog's marrow it will escape the gastro-intestinal ferments and penetrate the bone substance and make good rich blood On the supposition that the spleen is the seat of the formation of the red blood corpuscles, I would not be surprised to see calves' spleens given in whisky and glycerin In conclusion, I would say that with arsenic, the best remedy we have to day, we often fail because we do not push it to the limit In my opinion it should be given in medium doses of Fowler's solution and should be increased in half drop doses until decided symptoms of arsenical poisoning appear, then the administration should be stopped for a time Combined with a laxative we may continue to give this valuable drug with decided benefit in some cases

Dr D R Brower—I desire to say a word in emphasis of a point made in the paper of Dr Herrick This point I would emphasize, as it is of vast importance, that is, the factor of mental disturbance, of shock The last case of pernicious anemia I saw, was a young woman from Wisconsin A shock was the beginning of the disease She was in a railway carriage and was severely shaken up, but with no particular marks of injury that could be found at the time Then her health began to fail and six or eight months after the accident she came here, when a diagnosis of pernicious anemia was made, and like all the others, she passed to the other side I have never yet seen a case of pernicious anemia recover, even after protracted doses of arsenic, or with other treatment Cases of ordinary anemia that are so common, are frequently the result of shock and mental disturbance I saw a case last spring in which Fleischl's hemometer gave 20 per cent of hemoglobin It was a young man who was troubled about his examinations soon to occur, and his blood deteriorated until it made a record of 20 per cent There was nothing else but his intense mental worry and excitement and feeling of apprehension The point I wished to make was to emphasize Dr Herrick's suggestion of shock and mental disturbance having very much to do with the causation of many of these cases

Dr H N Moyer—I was, fortunately for myself, invited by Dr Herrick to see his very interesting case and I had the privilege of going over with him very carefully the clinical history and making an examination of the nervous functions It was to me a case of rare interest because it was the first one I had seen of so grave an anemia apparently associated with nervous shock The literature of the subject while in a way meager, in another way is comparatively rich, the older writers contain many references to anemia of a nervous origin, marasmus nervosa, it was termed, and they seemed to recognize very clearly the etiologic factor in many of these cases These older observations have not the value they would have, if the present method of examining the blood had been in vogue As to the relation in Dr Herrick's case, between the disease and injury, as he has pointed out in his paper, all other things are not excluded and they probably can not be unless the patient should die Regarding the treatment of pernicious anemia which has been mentioned, I would not agree with Dr Butler as to the inefficiency of bone marrow I do not think it has been demonstrated and I do not think that one can *ex cathedra* say it will not be of benefit He says that extracts of tissues, the spinal cord, muscles, heart and other parts have failed That is true, but it is not true of all extracts, there have been extracts of glands used that have proved to be of great value I think the value of the thyroid extract in the treatment of myxœdema is established without doubt, and it is possible that in bone marrow we have a structure analogous to glandular structure, a secretion of cells going on which is of great therapeutic value I agree heartily that arsenic is one of the very best remedies to employ in these anemias, particularly the forms that result secondarily to some trouble with the nervous system But the method I have employed is the use of arsenic under the skin It is very much less toxic than when given by the mouth and enormous doses can be used in this way in absolute safety It is my common practice to give an initiatory injection with an equivalent of 22 minims of Fowler's solution, and I frequently reach an equivalent of 75 and in some cases 100 minims, 1 grain of arsenite of potassium in a single dose, without toxic symptoms These large doses of arsenic act more efficiently than when given by the mouth The liver has a strong elective affinity for arsenic and it is absorbed through the alimentary canal with great difficulty The toxic action expends itself almost wholly upon the stomach and upper end of the intestine The hypodermic use of arsenic acts the same as inunctions of mercury in specific disease, it is distributed immediately to all parts of the system by the circulation I have estimated the toxicity of arsenic to be five or ten times less when administered under the skin than when given by the mouth The arsenite of sodium is free from any objection, it never causes the least sign of irritation Fowler's solution can not be used in this way as it almost invariably causes an irritation and very frequently an abscess, but the arsenite of sodium may be injected, so far as local symptoms are concerned, with the same impunity as water

Dr E R LeCount—With reference to the specimens of Dr Tinen, I have to say that the heart muscle in the case of leukemia, presented a very peculiar appearance under the microscope I did not see it in the fresh specimen The heart muscle fibers were marked out by the leucocytic invasion of the capillaries between the fibers, very much as the capillaries in the liver were filled with leucocytes dividing the rows of cells Although I had seen microscopic specimens of cases of leukemia before, this condition of the heart muscle was the most extensive and remarkable I have seen In the case of pernicious anemia there was a distinct atrophy of the mucous membrane of the stomach This could be easily demonstrated by taking a portion of the mucous membrane and spreading it with the peritoneal surface down upon the hand, and lightly moving the mucous membrane on the deeper layers, it being united to the deeper layers by a loose submucous tissue which allows ready motion It could thus be seen that there was nothing there but a thin membrane making up the mucous coat

Dr F J Dewey—In connection with Dr Herrick's paper and the influence of nervous shock in anemia, I recall a case I have under treatment at present, a young lady stenographer who works in one of the courts Whether this anemia is pernicious or not, I am not able to say, but that the excitement of her occupation has a great deal to do with her condition I have no doubt She is taking testimony from different lawyers and it must be absolutely correct and she must be able to read it at a moment's notice during a controversy After she has had a most exciting time in court she always gets worse She exhibits all the characteristic symptoms which have been brought out in the papers tonight, and it occurred to me, while Dr Herrick was reading his paper that this nervous excitement was the cause of her trouble

Dr J M Patton—In connection with the etiology of pernicious anemia, Dr Herrick mentions one case where sunstroke was supposed to have been the cause Last summer I had under my care for a short time a woman 58 years of age who had always been in perfect health, had always had a good home, with every comfort and the most hygienic surroundings She had never had any nervous troubles or shocks that could be found out, with one exception Three years ago she suffered from sunstroke while in California Last summer she came here to attend the World's Fair and shortly after her arrival she came under my care for hemorrhage from the gums She stated at that time that she had not been very well for two years She had a bad appetite, a good deal of gastric distress, the skin was of a light lemon color, the conjunctiva was pale and slightly injected, the retina looked normal She had no trouble with the sight and beyond the gastric disturbance and trouble with the gums she knew of nothing from which she suffered About a week after that she had a severe hemorrhage from the nose These hemorrhages continued several days and the anemic condition seemed to be rapidly advancing An examination of the blood at that time showed a very marked decrease in the number of red corpuscles and also of the hemoglobin She gradually grew worse and died about three weeks after coming under my care I mention this case because of the almost complete history of a number of years with absolutely nothing that could affect her in any way except this sunstroke

Dr E A Tinen—I have to say that malaria was excluded from the four cases reported The case of glandular leukemia had a history of injury over the spine Taken in connection with Dr Herrick's case it seems worth while to take note of that

Dr J B Herrick—It seems evident from the discussion that there is no clinical distinction between cases of primary and secondary anemia and chlorosis Many of the cases of anemia that recover could not be called pernicious There is a great distinction between chlorosis and pernicious anemia, that was merely hinted at in the paper, but in the examination of the blood no one should hesitate to recognize a case of chlorosis Chlorosis is first of all a reduction in hemoglobin Some patients are very pale, suffer from syncope and from most marked palpitation Some who are dizzy and incapacitated for work may have a normal number of red blood corpuscles or the reduction be very slight as compared to the enormous reduction in the hemoglobin In a case I saw about four years ago there were 34 500 000 red blood corpuscles and only 20 per cent of hemoglobin, an enormous reduction That was a case of chlorosis In pernicious anemia, on the contrary the marked reduction is in the number of red blood corpuscles, sometimes we find one or two million and even less than one million, in one case it was 143 000 Many cases are reported where there is less than half a million red blood corpuscles found, but the proportion of hemoglobin is great In the case I reported there was 13 per cent of red blood corpuscles and 25 per cent of hemoglobin If it was a case of chlorosis there would probably be 25 per cent of red blood corpuscles and 13 per cent of hemoglobin So I think many cases of anemia that recover can not be set down as pernicious unless a careful examination has been made Chlorosis will recover with proper hygiene, the administration of arsenic and iron, anemia, secondary to some gastric disturbance may recover, anemia secondary to renal disturbance may recover, at least temporarily, but a clinical distinction should be made between cases of pernicious anemia and chlorosis, and ordinary secondary anemia Recoveries from pernicious anemia seem to me to warrant us in excluding that term 'pernicious,' which practically implies fatality It is unquestionably true that there are cases which, after a careful examination are found to be clinically perfect as primary essential anemias, recover Osler, out of twenty cases, has had two recoveries, the patients living ten or fifteen years Some of Osler's cases which apparently recovered, died four or five years afterward, so that a fatal result may come from a relapse

Dr V A Latham—In the cases of leukemia I have seen, both in this country and in England, most of them had a malarial history In the case reported to night the plasmodium was carefully looked for but not found In some recent researches I was looking over, I was rather astonished to note the rarity of leukemia In some statistics gathered by prominent German and English authorities there was only 1 case in 60,000

Dr D D Bishop, Chicago, read a paper on

STAINED BLOOD PREPARATIONS

In a routine examination of the blood as performed in the hospitals to which the laboratory staff of Rush Medical College has access, the following observations are always made

1 A count of the number of red and white blood corpuscles per cubic millimeter

2 An estimation of the percentage of hemoglobin present

3 A cover slip preparation of fresh blood is examined concerning the following possible conditions

(a) Apparent changes in the color of the red blood corpuscles

(b) Changes in the size of the red blood corpuscles, noting whether there be present corpuscles much smaller than normal, microcytes, or those larger than normal, macrocytes

(c) Changes in the form of the red corpuscles, poikilocytes

(d) The presence or absence of Laveran's organisms of malaria

(e) A number of spread cover slips are then taken and preserved for subsequent examination by the color-test as recommended by Ehrlich

The Thoma Zeiss blood counting apparatus is used in estimating the corpuscles, with this the red corpuscles are easily counted and with almost absolute accuracy The limit of error with careful observers being placed at 2,000 a cubic millimeter If there be leucocytosis, the white corpuscles may be counted in the same manner as the colored, but if the leucocytes be few, Toison's solution may be used as a diluent in place of the salt solution ordinarily used By this means the nuclei of the leucocytes will be stained blue and may be easily separated from the red corpuscles Again a [illegible] per cent acetic acid solution may replace the salt solution when the red corpuscles will be destroyed and only the leucocytes remain

Ehrlich's color test has attracted much attention of late years for by its use a great deal has been added to the knowledge of the histology and pathology of the blood In making this test the following methods are pursued

The skin of the finger tip or the lobe of the ear is well washed with sterilized water, and pricked with a needle or fine lancet The first few drops of blood are wiped away and a small drop as soon as it has escaped from the puncture is received upon a perfectly clean cover slip held in forceps Another slip, also held in forceps, is dropped immediately upon the first one so that the drop of blood may spread out in a thin layer between the two They are then quickly but carefully separated by a sliding motion without pulling them asunder, and allowed to dry in the air No delay should occur in the manipulations lest the corpuscles become crenated Before staining, the dry slips must be fixed, by which means the corpuscles are firmly glued to the glass and the hemoglobin rendered unabsorbable by the dyes Fixing is best done by Ehrlich's method, the slips being heated upon a copper bar to 120 degrees C for one to two hours Another easily applied and quite satisfactory method is to place them in either absolute alcohol alone or absolute alcohol and sulphuric ether, equal parts, for from one half to twelve hours The staining process Ehrlich has divided the dyes used into three varieties, 'acid," "basic," and "neutral " An acid dye is one in which the acid portion of the compound is the active principle in the staining process, an example being eosin, while a basic dye is one in which the basic side is more active, as methylene blue A neutral dye is one formed by mixing previously prepared solutions of acid and basic dyes with the acid slightly in excess, an example being a mixture of acid fuchsine and hematoxylin solutions In general, a basic dye stains nuclei while an acid dye stains the cell body We shall see, however, that certain granulations found in the protoplasm of the cell body of leucocytes act in a definite manner toward the different dyes, and upon this the classification of leucocytes as given us by Ehrlich is based The study of the varieties of leucocytes furnishes the greatest fascination of any part of this work, for by this classification there is spread out before the clinician a field from which much has been added to the more careful diagnosis of disease

Fixed specimens of blood may be stained for five minutes or longer in a fairly strong aqueous solution of eosin, washed, dried between two layers of filter paper, and again stained for three to five minutes in a concentrated aqueous solution of methylene blue, washed, dried as before, mounted in Canada balsam and examined with a one twelfth oil immersion lens In such a specimen a very interesting picture will be seen Of the leucocytes one sees the following

1 Small leucocytes, a little smaller or a little larger than

a normal red corpuscle with a spherical nucleus nearly filling the cell and staining deeply with the "basic" dye Some of these show only a slight rim of protoplasm about the nucleus, while others show quite an appreciable amount which may or may not be slightly tinged with the red "acid" dye These, Ehrlich has called the small mononuclear leucocytes or lymphocytes They form about 15 to 20 per cent of all leucocytes in normal blood

2 Leucocytes considerably larger than the last, also having a roundish, oval or ovoid nucleus, which stains fairly well with the "basic" dyes and shows a relatively well developed rim of protoplasm about the border These he called the large mononuclear leucocytes

3 Leucocytes, much like the last but showing an indentation in one border of the nucleus Ehrlich believed these were in transition stage from the last variety to the polymorphous nucleus of the next, hence spoken of as transition forms Forms 2 and 3 constituting 6 to 7 per cent of all

4 Leucocytes, somewhat smaller than the largest mononuclears, with a polyform nucleus, staining lightly with the basic dyes, while the fine granules in the protoplasmic body of the cell will be lightly tinged with the "acid" dye These were called the polynuclear leucocytes and because the protoplasmic granules stained well with the "neutral" dyes they are spoken of as having neutrophilic granulations They are often called neutrophiles The term, polynuclear, is misleading as it implies the presence of many nuclei in each corpuscle This is not true as all leucocytes have but one nucleus It is more proper to speak of them as leucocytes with polymorphous nuclei These constitute 70 to 75 per cent of all

5 Leucocytes with polymorphous nuclei staining quite well with "basic" dyes and showing large rounded or ovoid granules in the protoplasm that stain dark red with "acid" (eosin) dyes, hence called eosinophiles These granules always stain with the "acid" dyes and with no others The eosinophiles constitute about 5 per cent of all Five different granulations behaving differently toward dyes have been described by Ehrlich, but as only three are found in human blood these only will be considered

The eosinophilic or A— granulation is found only in the eosinophiles, the neutrophilic or E— granulation found in the majority of polynuclear leucocytes, and the B— granulation The last is applied to those granules staining only with the "basic" dyes—basophilic Such are found in the 'mastzellen" of normal bone marrow

The red blood corpuscles will be colored light red by the acid dyes and the blood platelets will slso appear in small groups tinged with the same stain If one uses the triple stain of Biondi-Ehrlich which contains orange G, methyl-green and acid fuchsin he may get the effect produced by an acid, basic, and neutral dye at one and the same time For such work one may employ the stain prepared by Grübler in the powdered form and use a saturated solution in water 6 parts, alcohol 1 part, and glycerin ½ part This should be left in contact with the specimen three to ten minutes, washed, dried and mounted in balsam Here one finds the red corpuscles yellow from the orange G the nuclei of the leucocytes, the nucleated red corpuscles green from the methyl-green, and the neutrophilic granulations violet The eosinophilic granulations will be stained a dark red

So much for the normal blood As to the relations of these varieties to each other, and their origin, there are two views Ehrlich, on the one hand, claims that the small mononuclear forms are derived from the lymph glands and have no developmental relation to the other forms, while the large mononuclears and polynuclears are derived from the spleen and bone marrow The eosinophiles also having their origin in the bone marrow He believes that from the large mononuclear forms the transitional and polynuclear leucocytes are developed The polynuclears, he says, are the only variety that possess amœboid movements, are oftenest found remote from the vessels, that they divide by karyokinesis, and perhaps by amitosis as well This differs from the view held by Virchow that all other varieties are developed from the lymphocytes Ouskow has lately supported this view, he having found upon examination of fresh juices from the blood forming organs, small mononuclear elements in not only the lymph glands but in the bone marrow He believes karyokinesis occurs in the lymphocytes and continues up to the polynuclears, after which it can no longer occur The tendency to day is to accept this mode of development Ouskow classifies the leucocytes as young, ripe and over-ripe forms corresponding respectively to Ehrlich's lymphocytes, large mononuclears, and polynuclears If one examines stained smear preparations of bone marrow blood he finds several cells not seen in the circulating normal blood These do appear, however, in certain diseases, in the circulation

1 Of the red corpuscles one sees nucleated corpuscles of normal size, Ehrlich's normoblasts, again corpuscles considerably larger and nucleated, the megaloblasts of Ehrlich and Hayem Their nuclei stain deeply with the basic dyes These elements appear in the blood of pernicious anemia, the secondary grave anemiæ and leukemia They are generally considered as rapidly developing young forms

2 Large cells with a rounded or ovoid single fairly-staining nucleus, about the size of the large mononuclear leucocytes, but containing neutrophilic granulations—the myelocytes These are of very infrequent occurrence in normal blood but are present in spleno-myelogenous leukemia

3 The "mastzellen," much like the large mononuclear leucocytes but showing coarse "basophilic" granulations in the protoplasm, are seen in bone marrow blood and in the circulating blood of spleno-myelogenous leukemia

The application of the color test has been found of great service in determining the different varieties of the so-called blood diseases It is only natural to expect that other important aids to diagnosis will be established as further accurate observations proceed Already some important facts relative to the varieties of leucoytosis found in the different specific fevers have been discovered by the able researches of Ouskow and Khetagurow and confirmed by Thayer and others The blood of several cases of malaria has been lately exhaustively studied by Billings, of Johns Hopkins Hospital, who has pointed out some very interesting and important facts relative to the leucocytes in that disease It is to be hoped that we shall yet learn the true etiology of those diseases in which there are such profound blood changes, now so mysterious

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Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill, Nov 9 and 10, 1894

(Continued from page 94)

THIRD SESSION, FRIDAY, NOVEMBER 9, 8 P M

DR H J MAYNARD in the chair

The Committee on Constitution and By-Laws, through its chairman, Dr C K Cole, made the following report, which was adopted at Chicago, Nov 9, 1894

CONSTITUTION AND BY-LAWS OF THE AMERICAN ACADEMY OF RAILWAY SURGEONS

NAME

1—The name of this organization shall be the American Academy of Railway Surgeons

OBJECTS

2—The objects of the Academy shall be the improvement and advancement of Railway Surgery by means of the study of the subject in general, and especially by the study and investigation of clinical, medico legal and sanitary matters relating thereto by the reading and discussion of papers in convention, and the cultivation of closer fraternal relations among those actively engaged in this special work

MEMBERSHIP

3—The members of this organization shall be known as Fellows, and shall be divided into two classes, namely, Active and Honorary The list of Active Fellows shall be limited to two hundred (200) Railway Surgeons, and shall be restricted to those in actual service as such at the time of their election

No Fellow shall continue as an Active Fellow after having severed his connection with a railway company, but he may become an Honorary Fellow by a vote of the Academy as herein provided Honorary Fellows shall have the same privileges as Active Fellows, excepting the right to vote, hold office and participate in the Executive Sessions

The list of Honorary Fellows shall at no time exceed one hundred (100) and shall be composed of such surgeons and physicians, as may be elected at any regular meeting by a two thirds (⅔) vote of the Academy, provided that after the year of 1894 not more than five (5) Honorary Fellows shall be elected at any annual meeting

PENALTIES

4—Upon a sufficient showing that a Fellow has been wilfully guilty of gross violation of the laws governing the Academy, or any form of professional misconduct, the Executive Board may recommend that his resignation be requested or move his suspension or expulsion A majority vote of the Fellows present at an Executive Session, being necessary to fix the penalty

OFFICERS

5—The officers of the Academy shall consist of A President, two Vice Presidents, a Secretary, a Treasurer, an Editor, an Executive Board of seven (7) including the President, the Secretary and the Treasurer, who shall be *ex officio* members thereof

ELECTIONS

6—Applications for Fellowship shall be made in writing to the Executive Board signed by three (3) Active Fellows who are personally acquainted with the candidate Upon a favorable report by the Executive Board a ballot shall be ordered, when if not more than three (3) negative votes appear, the candidate shall be declared elected

The officers of the Academy shall be elected on the last day of each annual session by ballot, a majority vote of the Fellows present being necessary to a choice

MEETINGS

7—The annual session of the Academy shall be held at such time and place as shall be designated by a majority vote at the previous annual session, and each session shall continue for three (3) days, unless otherwise ordered by the Academy

An executive session for the transaction of business shall be held on the morning of the first day of each session, none but active Fellows of the Academy being present

BY-LAWS AND RULES OF ORDER

1—The President shall preside at all regular meetings of the Academy, sign all official documents and perform the ordinary duties appertaining to his office In his absence one of the Vice Presidents shall occupy the chair in the order of seniority or if both of them are absent, by a Fellow elected by the Academy

The Secretary shall keep a correct record of the proceedings of the Academy, give notice of the time and place of all meetings, receive the signatures of Fellows, sign official documents and take charge of all property of the Academy not otherwise provided for

The Treasurer shall receive all money paid into the Academy and disburse it upon the authorized order of the President and Secretary He shall make a full report, and his accounts shall be audited by a select committee appointed for that purpose at each annual session

The duties of the Editor shall be those ordinarily pertaining to such an office He shall edit all the papers and discussions, and see that they are published as directed by the Academy He shall act as a member of the Publication Committee, consult with said Committee regarding the publication or exclusion of any paper or discussion submitted to him for publication, and assist in securing papers for each annual meeting and the proper arrangement of the same on the program, and such other duties as may be assigned him by the Committee on Publication

EXECUTIVE BOARD

2—At the annual session of the Academy in 1894, four Fellows of the Executive Board shall be elected, one to serve one year one to serve two years, one to serve three years and one to serve four years, at each annual session thereafter one member of the Executive Board shall be elected to serve four years The functions of the Executive Board shall be both judicial and executive, it shall have the general supervision of the affairs of the Academy, it shall recommend candidates for membership in the Academy, and it alone shall have the power of moving their expulsion or suspension for any alleged offense against the Constitution or By Laws It shall act as a Committee on Credentials, hold any necessary meetings in the interval between sessions, and its action shall be deemed the action of the Academy unless reversed by that body

COMMITTEES

3—Committee on Transportation At each annual session the President shall appoint a Committee on Transportation consisting of three (3) Fellows It shall be the duty of this Committee, as far as possible, to arrange with the various railway companies for the transportation of the Fellows of the Academy to and from the annual session They shall cause the publication of a list of railways granting transportation, and other necessary information

Committee on Publication The President Secretary, Treasurer and Editor shall constitute a Committee on Publication to which shall be referred all papers, reports and other matter suitable for publication by the Academy

Committee of Arrangements A Committee of Arrangements, consisting of three (3) Fellows, shall be appointed by the President at each annual session, the Chairman of which shall reside in the place where the next annual session is to be held This Committee shall confer with the Committee on Publication in the preparation of the program for the next annual session, a copy of which shall always be sent to each Fellow at least one month before the opening of the session, and shall make all necessary preparation for the meeting of the Academy

SCIENTIFIC WORK

4—The scientific work of the Academy shall be divided into 1, surgical, 2, medico-legal, 3, sanitary

All papers and reports of discussion shall become the exclusive property of the Academy, subject to such disposition as shall be ordered by the Committee on Publication

MEMBERSHIP FEE

5—The admission fee shall be five dollars ($5), to be paid when the application is made Should the applicant fail of election this fee shall be returned to him

DUES

6—The annual dues shall be five dollars ($5) payable on or before the last day of the annual meeting Neglect or failure on the part of any Fellow to pay his dues shall forfeit his right to vote or receive the perquisites of the Academy, until his dues are paid, and the failure to pay his dues after the annual meeting shall forfeit his Fellowship

QUORUM

7 —Any number of Fellows present at the appointed time of the annual session shall constitute a quorum for the transaction of ordinary business, but for the election or expulsion of Fellows, or for altering the Constitution and By-Laws, twenty-five (25) Fellows shall be required to form a quorum

ORDER OF BUSINESS

8 —1 Call to order
2 Addresses or other special exercises as prepared by the Committee of Arrangements
3 Reading minutes of previous meeting
4 *Report of officers and committees*
5 Miscellaneous business
6 Announcements
7 Reading reports of cases and exhibitions of patients, specimens, apparatus, etc
8 Reading and discussion of papers
9 Unfinished business
10 Election

RULES

9 —Roberts' Rules of Order shall govern the deliberations of the Academy

AMENDMENTS

10 —Proposed amendments to the Constitution and By-Laws must be offered in writing, at a regular session, and shall not be acted upon until the next ensuing annual session when a two-thirds (⅔) vote of the Fellows present shall be necessary to adopt

On motion of Dr R Harvey Reed, the report was considered, section by section

On motion of Dr Webb J Kelly, the amended Constitution and By-Laws were adopted as a whole

On motion of Dr R S Harnden, the appointing of a Committee on Nominations was dispensed with

Dr R Harvey Reed reported that an option had been offered the Academy from the Editor of the Journal of the American Medical Association, whereby said Journal would furnish the Academy a department, and would permit of the Academy's appointing its own Editor, and that he would furnish to the Academy a bound volume of the transactions of the Academy, bound in cloth, price not to exceed $1 per volume

On motion of Dr R Harvey Reed, the Academy accepted the proposition from the Editor of the Journal, and the chair appointed a Committee, consisting of Dr R Harvey Reed, Columbus, Ohio, Dr John E Owens, Chicago, Ill, and Dr C K Cole, Helena, Mont, with instructions to close said contract and the committee was further instructed to make a contract with the Editor of the Journal for three hundred (300) bound volumes of the Transactions, the price not to exceed one dollar ($1) per volume

On motion of Dr C D Evans, the election of officers was made the special order of business at 2 p m Saturday

On motion of Dr F H Caldwell, the banquet was abandoned

Adjourned until Saturday morning, 9 a m

(To be continued)

Louisville Academy of Medicine

The second regular meeting of this society was held in its rooms in the Fonda Building, Monday evening, January 7, its President, Dr T L McDermott in the chair The subject occupying the attention of the members was a continued discussion of Dr Bailey's remarks at the last meeting "Shall the antiseptic vaginal douche be a routine procedure in obstetrical practice?"

Dr W H Wathen stated that when a woman is healthy and in labor her vagina is practically aseptic, the vaginal secretions have a cleansing effect, and if there is any septic material in the vagina or uterus it must have been conveyed there by the attendant If the douche is adopted as a routine practice it will cause twenty-five cases of sepsis where it will prevent one Since the general adoption of this practice it has killed ten where it has saved the life of one He asserted that he was positively opposed to the douche as a routine practice, and that it should never be used save where sepsis is suspected, and then not only as a vaginal but also as a intra uterine douche, since if infection is in the vagina it is also in the uterus, because of the *intimate relationship of the parts and the likelihood of* absorption by lymphatics Puerperal sepsis is nearly always exogenetic

Dr H A Cottell stated that when the aseptic and antiseptic midwifery craze struck the country he reviewed an article in which the stand was taken that the antiseptic precautions should begin as early as the sixth or seventh month, and it called forth a comment from him Should not the spermatozoid be made aseptic before being allowed to go on its way? He took the ground that labor is a physiologic process, and not pathological, and when this factor enters into it then is the time to use antiseptic precautions The woman in the parturient condition is in a physiological condition not a surgical Nature protects the case by making a glazed surface of granulations over these rents and tears which occur in all cases, and the germs are not absorbed, but pass over them, give a douche, however, the granulations are broken up, and absorption occurs He does not believe in auto-infection, and believes this new theory of sepsis being due to the bacterium coli communi, simply an excuse, that it is not probable that these bacteria enter the vagina from the anus, and it is impossible for them to penetrate the tissues In catheterizing lying in women, he could not help but say a word of warning against the introduction of the catheter by the sense of touch Expose the patient, cleanse the parts about the meatus, then introduce a clean catheter

Dr J B Bullitt —Nowadays there are few advocates of the douche following labor, except when there is sepsis, then an intra-uterine douche, preceded by a curettement and followed by packing for drainage In Germany, very radical measures are used, and the mortality is much reduced If a douche be given, it must never be given save by the doctor or trained nurse The whole question could be settled by discouraging vaginal examinations Keep hand out of vagina but follow the progress of labor by external palpation

Dr Henry E Tuley stated that in order to refute one or two statements of Dr Wathen's, he would relate his experience as resident at one of the large maternity hospitals of the East Sloane Maternity Hospital, New York, where vaginal douches of bichlorid, 1 to 5,000, were a routine practice Immediately after admission, the patient was given a full bath and a vaginal douche, if not in labor When labor began, she was given a douche, and an enema, followed by a douche directly after labor Then many examinations were made, by the students as well as the nurses, and of the 222 cases delivered during his three months residence there were only 3 cases who had temperature which could not be explained as being due to other causes than sepsis

Dr Tuley exhibited before the Academy a douche nozzle, the same as used at Sloane, it is made of glass, smaller than a Chamberlain tube, with a small curve at the end, and near the other end a bulb, blown in the tube, which serves as an index as to where the tip of the tube is, it being on the same side with it Though so successful in hospital practice with the vaginal douche, both before and after labor, Dr Tuley stated that in his opinion the douche in private practice was impracticable

Dr Frank stated that in his opinion the douche in private practice as a routine, was inadvisable Labor is a normal condition and may become surgical In obstetrical surgery as version, the douche is advisable The secretion of the vagina and the amniotic fluid tend to rid the vagina of any bacteria present If bacteria are resident in vagina they must be gotten rid of, but this can be accomplished, not by the douche alone, but only by scrubbing the same as would be done before any operative work upon the uterus or vagina He spoke of the method of ballooning the vagina, which he had been unable to find mentioned anywhere, in giving the douche, which is accomplished by introducing the fingers with the tube which acts as a plug, the water accumulates and distends the vagina

Dr Bailey in closing the discussion, stated his appreciation for the liberal remarks made He said that the secretion of the vagina takes care of most of the bacteria present, neutralizing their effect, but if they are present in the uterus he advised a douche, as the uterus secretion cannot do the same thing He called attention to some remarks made in his paper, in regard to a vaginal douche given before labor, preventing the blindness which is so common in children He disagreed with Dr Frank as to the ballooning the vagina of a lying in woman by distending it with water, owing to the possibility of forcing some of the dislodged septic materia through the patulous or into perhaps an aseptic uterus

At the conclusion of the discussion, the Academy was entertained by the address of its President, Dr T L Mc Dermott —(See page 109)

BOOK NOTICES

Blood Serum Therapy and Antitoxins By Geo E Krieger, M D With illustrations Cl, pp 69 Chicago C H Colegrove & Company 1895

This timely monograph is an excellent *resume* of the existing state of knowledge and current literature on this subject The contents are as follows

Chapter i, Blood Serum Therapy, ii, Toxins and Toxalbumins iii, Tetanus, iv, Diphtheria The author has produced a well-written book, there are a few errors of proof reading and some of orthograpby, such as "chaolin" instead of kaolin, page 18, ' paralize" instead of paralyze, page 26, and some sentences which betray the German idiom but these are minor defects and do not materially detract from the great merit of the work We hope to chronicle the fact that this little book has passed to its second edition, and as there is great need of the special information contained in it, we feel sure that the hope will be realized at an early day

Myxœdema, Cretinism and the Goitres with some of Their Relations By Edward T Blake, M D M R C S Paper, pp 89 Bristol John Wright & Co 1894

The author in this brochure seeks to establish the septic or infectious nature of the disease and the propositions he endeavors to establish are 1, that Graves' disease in women is an autotoxis, most frequently caused by absorption of purulent products, that process being *aided*, rather than *induced*, by the toxins of terror and shock, 2, the same products lead to the production of rheumatism in males, by acting in the same locality, viz, the medulla oblongata, 3, if these products abolish the functions of the thyroid, we may get myxœdema, 4, if these products invade the cortex, in large quantity and abruptly, we get a psychosis, as for example, mania or some neurosis such as epilepsy, 5, if the invasion be more gradual and the poisons more diluted, we get chorea

The brochure is well written and extremely interesting

NECROLOGY

Dr Benjamin Freeman Fessenden, the subject of this sketch, was born in Plymouth, N C, Sept 16, 1818 His father came from Massachusetts Early left an orphan, he was brought up by a conscientious guardian, who took excellent care of his early education

Having completed his preparatory studies, he entered the University of Pennsylvania, and graduated with honor in 1842 His thesis on graduating was "Unguentum Hydrargyri Nitratis vel Unguentum Citrini" Under the head of 'Citrine Ointment," in Wood & Bache's "Dispensatory," Dr Fessenden's thesis is mentioned and his methods approved

The Doctor married early, and practiced his profession in his native place until the War of the Rebellion broke out He was at once made Surgeon General in the Confederate Army and was Medical Director of the State of North Carolina, all through the war

After the war in 1865, he moved to Brooklyn Then began an acquaintance between the Doctor and the writer of this sketch that ripened into the firmest friendship, broken only by his death Dr Fessenden was a man not easy to become acquainted with, but when once well known he was highly appreciated for his sturdy virtues and the excellencies of mind and heart which he possessed Living opposite me for nineteen years, I was in his house, or he in mine, almost every day I have been with him by the bedsides of his sick and dying loved ones, and he has been with me on similar occasions His courage, cheerfulness, sweet and manly resignation to the Master's will have compelled my perfect admiration His words and acts of solace and comfort to me have touched my heart and made me love him as a brother

Dr Fessenden was sometimes brusque in manner, never fond of show, and all kindly in heart He was a great student of literature and could repeat many portions of Shakespeare, nearly, if not all, of Pope's essays, especially the 'Essay on Man," and would often amuse and delight his friends by his excellent recitals of some of them

In the sick chamber he required strict obedience, and rewarded it with kind constant and skillful attention He made it a point to be kind and helpful to the younger members of the profession, and so honest was he that, as he often told me, he early made it a rule of his life—from which he never swerved—never to take a patient from any other doctor, if it were possible not to do so, but always to have some good word to say, or some reason to give, why the patient should continue with the doctor he was then employing This reputation he enjoyed to the last

He was positive in character, and for this reason his friendships were ever faithful and deeply rooted, and his dislikes equally pronounced Many men, women and children learned to love him, and many have told me how much they miss his pleasant smile, his kind, cordial, gentle, yet decisive advice

Dr Fessenden was one of the first members of our Association and he took a great interest in it He was, I believe, the first to be taken from us by death In years, he was one of the oldest physicians in Brooklyn

For more than a year he has occasionally complained of vertigo, which he believed to be due to the inactivity of his liver and kidneys This, however, generally readily yielded to treatment and passed off It was not until early in July last, when the Doctor had an attack that seemed to him like a light stroke of apoplexy, that he felt the necessity of calling in a physician When I saw him first, he seemed to appreciate his condition, but was not at all alarmed and professed himself ready His disease was fatty degeneration of the kidneys, and in spite of the best medical care and the most careful and loving nursing, he sank into a deep coma, and on the 27th of July quietly and peacefully passed away, to join his loved ones in the land where sorrow and sickness and parting never come

He has left a clean clear record, and many very many, sorrowing friends, who will never forget him We are among these

> "His fight is fought, his battle done,
> The victory of his life is won
> The peacefulness of his rest begun "

Published in the Journal of the American Medical Association by request of the Kings County N Y Medical Association

Nathan Cartwell, M D , died in Tustin, Orange County, Cal , Jan 3, 1895, suddenly, of neuralgia of the heart He was born in Nelson County, Ky , and went to Louisville when a boy Wrote in the clerk's office under Worden Pope and was a student in the Medical College He located in Union County, Ky , where he lived many years, engaging successfully in the mercantile business and later in banking In 1883 he removed to Waco, Texas, and entered into the banking business with a former partner, under the old name of Cartwell, Higginson & Co , but the climate not suiting his always delicate health, in January, 1887, he sought Southern California, where his last years were peacefully passed on an orange ranch In January, 1869, he married Llewellyn, eldest of Judge Huston of Morganfield, who with seven children mourns his loss Dr Cartwell was a man of unquestioned integrity, and a devoted member of the Episcopal Church

D D Belknap, M D , of Whitewater, Wis , January 15, aged 75 ——Frank M Trude, M D , of Chicago, January 14, aged 26 ——Stephen Roof, M D , of New York, January 10 —— Myron Leslie Baxter, M D , at Derby Line, Vt , January 8, aged 55 years He was a brother of the late Surgeon-General Baxter of the Army

SOCIETY NEWS

Burlington County (N J) Medical Society—The Burlington County Medical Society held its annual meeting at Mount Holly January 15 The following officers were elected President, F G Stroud , Vice-President, J H Pugh , Secretary, A W Taylor

Oakland County (Mich) Medical Society—The Oakland County Medical Society held a regular meeting at Pontiac January 9

Montgomery County (Pa) Medical Society—The Montgomery County Medical Society held its annual meeting at Morristown January 9 The following officers were elected for the ensuing year President, J L Weaver, Vice-Presidents, J R Care, of Worcester, and S R Hunsberger, of Skippack , Recording Secretary, H H Whitcomb , Corresponding Secretary, J K Weaver , Treasurer, S N Wiley

American Association of Obstetricians and Gynecologists — This Association will meet in Chicago next September

Medico-Pathological Society—The annual meeting of the Medico-Pathological Society of York City, Pa , was held January 10 The following officers were elected President, I H Betz , Vice-Presidents, W H Minnich and G E Holtzopple , Secretary, S K Pfaltzgraff , Treasurer, J, F Klinedinst The annual banquet of this Society will be held February 14

Will County (Ill) Medical Society—The annual meeting of the Will County Medical Society was held January 10 The following officers were elected President, Wm Richards , Vice-President, R G Rulien , Secretary and Treasurer, Wm Dougall

Newport (R I.) Medical Society—The Newport Medical Society held its annual meeting January 16 Honorary President, N H Storer , President, Francis H Rankin , Vice-President, C F Barker , Secretary, Mary E Baldwin

Chicago Ophthalmological and Otological Society—Regular meeting held Dec 11, 1894 Dr Hotz in the chair There were twenty-six members and visitors in attendance

On motion, the reading of the minutes of the last meeting was omitted

Drs Mary Hollister, Paul Guilford and F E Gavin were elected members

The application of Dr W E Gamble was read and referred to the Committee on Membership

Dr Gradle showed a specimen of tumor of choroid, presumably sarcoma, preserved in formalin The colors and transparency were life like He also referred to an article by Beer, in *Archiv für Physiologie*, on the accommodation of fishes' eyes The rest of the evening was occupied by Dr Meyer of Kankakee, with an essay on "Cranial Nerves"

On motion the Society adjourned

103 State Street C P Pinckard, Secretary

SELECTIONS

A New Constituent of the Atmosphere—The proportional parts of the essential constituents of the atmosphere, oxygen and nitrogen, were determined with much accuracy more than one hundred years ago For an almost equal length of time it has been thought that these gases with three others—carbonic acid, ammonia, and water vapor, which occur in very small quantities, were the only other all-persistent components of the atmosphere, that is, components not due to local causes It was, accordingly to be expected that the announcement of a new constituent of the atmosphere would be received with surprise and interest This announcement was made at the last meeting of the British Association for the Advancement of Science, in August of this year The suggestion of a new constituent came to Lord Rayleigh in 1893, while determining the densities of the principal gases In these investigations he discovered that the nitrogen obtained by the decomposition of ammonia was lighter than nitrogen obtained from the air He at first thought that this might be due to the existence of an allotropic form of nitrogen, similar to the modified form of oxygen known as ozone By April, 1894, Lord Rayleigh had determined the density of nitrogen obtained from ammonia, from nitrous and nitric oxids, and from ammonium nitrite —and it was found to be the same in each case, but different from the density of nitrogen obtained from the atmosphere After this result was reached, Lord Rayleigh satisfied himself that the difference could not be due to the presence of any known gas likely to be present He then, in conjunction with Professor Ramsay, removed both the oxygen and nitrogen from a certain volume of air and found that a substance was left that was neither oxygen nor nitrogen, as was proven by its spectrum , the oxygen and nitrogen were removed from air by different processes, and in each case the new substance was left Since the announcement of the discovery, no investigations tending to throw light on the nature and properties of the new substance have been published, and it is not known whether it is an element or a compound According to the discoverers it constitutes about 1 per cent of the atmosphere Professor Dewar had previously noticed that liquefied oxygen and nitrogen gave a clear liquid, while the liquefied atmosphere was turbid, and it has been suggested that this new constituent of the atmosphere may have caused the turbidity , but Professor Dewar says that the substance producing the turbidity can not amount to 1 per cent It may be confidently assumed that if there has been no mistake, the discovery will soon be verified and the properties of the new substance determined —Prof S E Tillman, U S M A , in *Cosmopolitan*, January, 1895

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION

This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman Venetian Building Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character intended for publication in the JOURNAL, should be addressed to the *Editor* and all communications relative to the business of the JOURNAL proof sheets returned or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 86 Fifth Avenue Chicago

SATURDAY JANUARY 26 1895

ADVICE TO YOUNG OCULISTS

Since the extraction of cataracts without iridectomy has been reintroduced into ophthalmic practice, there has scarcely ever been a meeting of oculists at which the question of cataract operation with or without iridectomy has not been debated But as usual in medical discussions, the main question is generally lost sight of and each speaker dwells upon some pet hobby—some little modification or so called improvement in the operative technique, which he insists is very essential to the success of the operation, and the longer the question is debated the farther the opinions seem to drift away from each other Upon the experienced oculist these discussions make no impression, as HANSEN GRUT said at the Ophthalmological Congress at Edinburgh, they only show what was known before, that cataracts can be successfully extracted in various ways But the young oculist who hears or reads these conflicting views, is in danger of losing all confidence in himself and of feeling entirely at sea as to the proper method of operating

For these young oculists, DR HERMANN PAGENSTECHER, of Wiesbaden, has recently published in the *Klinische Monatsblätter für Augenheilkunde* a short paper full of good, sensible and practical advice "The young oculist should never try experiments, but adhere to those indications and to that operative method which experience has shown us to be the easiest in execution and the safest in restoring the sight And this method is the extraction with iridectomy, because it can be employed in all cases, while the simple extraction is limited to certain kinds of cataracts whose proper selection is very difficult, even after long experience

"We can operate without iridectomy in all cases in which we can with certainty expect that we take no chances of a subsequent protrusion of the iris Unfortunately, this is not always possible, and it is this weak point which will frustrate all efforts of making the extraction without iridectomy, the operation for all uncomplicated senile cataracts Even the most expert operator is never able before the operation, to tell with absolute certainty that he will operate on this eye without iridectomy and without risking a prolapse of the iris This fact alone is to me sufficient to advise every young oculist not to operate without iridectomy, for to excise *lege artis*, the iris after the removal of the lens requires a far greater dexterity than the iridectomy before the extraction" DR PAGENSTECHER concedes the operation without iridectomy has some advantages, it preserves the natural round pupil, and usually the eyes show less irritation during the healing process But it also has its serious drawbacks, cortical remains can not be thoroughly removed, hence posterior synechiæ and secondary cataracts are more frequent than after the extraction with iridectomy, but the chief drawbacks are the incarceration and prolapse of the iris, of which even the most expert operators report 8 to 10 and more per cent, these accidents always retard the healing process, produce a hideous distortion of the pupil, and sometimes have caused the loss of the eye by suppuration or irido cyclitis "This is a sad experience and too dear a price for even the greatest series of nice round pupils"

But if such disastrous results occur in the practice of a surgeon having an unusually large experience, so much more reason for the beginner, in the interest of his patients and for his own good, not to practice the operation without iridectomy He shall first acquire experience and the greatest manual dexterity with an operative procedure by which he can operate upon *all* cataracts (and this is the operation *with* iridectomy), then, he will, by-and-by, find out for himself when and how much he may with safety depart from his accustomed practice

MEDICAL EDUCATION

The present is a period of evolution in methods of medical education Colleges have nothing to lose and much to gain in enforcing honest high grade work Up to a period of the last few years the profession as a whole, was notably indifferent as to the character of work being carried on in the various colleges although societies passed the usual perennial resolutions The number of truly high grade institutions could be counted upon the fingers of one hand They were not supported by the profession with that unanimity that their efforts merited, indeed, in a few instances these schools were for years upon the verge of starvation

Through stress of circumstances and with the concurrence of the indifferent preceptor, the student selected that college wherein he could secure his degree with the greatest ease The result has been to flood the country with a profession, a large number of whom are not as well educated as the average man in other walks of life In consequence the medical profession as a whole has suffered To-day, however, the situation is quite changed As the result of an aroused professional and public sentiment, we have in sixteen States in this country, medical laws that fail to recognize the diploma as an equivalent evidence to entitle the holders to practice medicine These persons are required to prove their fitness to practice by undergoing a personal examination upon all the branches included in the field of medicine The work of these boards can not be hidden A series of statistics published, covering over two thousand examinations indicate that one fourth of all applicants fail to pass their examinations In an additional paper about to be published a similar condition of affairs will be found to exist, thus bringing the statistics down to January of the present year Like the first paper it will be found that in making a comparison of the proportion of alumni, successful before the different boards, that those schools exacting good work rarely fail, upwards of 95 per cent of all applicants being successful, while the graduates of the schools of the second grade suffer in alarming proportions, viewing the question from the standpoint of the disappointed student In analyzing the work of these boards as applied to the medical colleges of the country but one conclusion can be inferred It is, that the proportion of graduates of the individual colleges will accurately and impartially indicate the character of medical instruction being afforded by each school at the time of conferring the degree

The influences that have been at work in bringing about the wide medical legislation of this country being so recent are familiar to all, suffice it to say that it was accomplished without the assistance or even the cooperation of the faculties of the medical colleges of the country, with a few exceptions, where the faculties of some of the high grade schools joined with the promoters of the proposed legislation

It is our opinion that notwithstanding the far reaching influence of the medical press, and the support of the various medical societies of the country, medical legislation alone caused the healthy reform It is also apparent that the enforcement of efficient medical legislation in a few States will do more in destroying the dangerous work of the low grade college than all other factors combined

The history of reform in methods of medical education in this country is about as follows The Constitution of our ASSOCIATION provided for a standing committee on medical education, and the ASSOCIATION took the initiative, and as far back as in 1847 the faculty of the University of Pennsylvania made an ineffectual effort to bring about needed reforms in methods of teaching After a prolonged trial it was abandoned In later years, Bellevue Hospital Medical College suffered a similar experience, the first Association of American Medical Colleges was disrupted through the action of the representatives of a few of the low grade schools and a similar effort was made to disrupt the work of the present college association but fortunately without success Up to the period of establishing efficient medical legislation, about five years ago, the low grade college seemed to thrive About this time those colleges that had adopted the change from the two- to the three-year course observed an increased attendance instead of the falling off that was really expected by the deans of each school It was at this time that the present Association of American Medical Colleges was organized, and aided by the efficient work and influence of the various State boards was the precipitating influence in bringing about the adoption of the three-term requirement by the fifty-four schools that subscribed to its by-laws the year of its organization The change from the three to the four years course is being accomplished much in the same way It is the experience of the schools that anticipated this great reform and are now working under the four year curricula, that they have an increased attendance As affecting the colleges themselves there is but one interpretation, looking at this question from the college standpoint It is that the time has arrived when the student seeks the doors of that institution that affords the best facilities for instruction Our boys do not care to be limited in their practice to those States not blessed with laws regulating medical practice, but upon the contrary recognize that the day of the low grade medical college is on the wane, and that disgrace faces the work of all such institutions, and will continue to do so, so long as we have efficient medical practice laws

The action of the Association of American Medical Colleges in adopting the four year curriculum at San Francisco last year will prove to have been the precipitating factor in stepping from the three to the four year's requirement by the colleges of the country We hear nothing but good news in this direction The provisions of the four year's curricula goes into operation with all new matriculates beginning with this present calendar year, who are members of the College Association or of the "Homeopathic" College Association The resolutions adopted by the AMERICAN MEDICAL ASSOCIATION on this point become operative with all matriculates of the present year, and in the future if they ever hope to become members of this body It is reliably reported that at the present writing, forty-two medical colleges, members of the College Association have indicated their intentions favorably on the new regulations of this body Unless all signs fail, about every college situated in the Northern States will require of the 1895 entering class, attendance upon at least four courses of medical lectures, in different years, before conferring the degree of M D Reports from the other medical colleges are not so favorable We are of opinion, however, that the profession of the other States will not long tolerate lagging upon a question of this character The colleges working under the four years' requirement at the present time have an increased attendance in their freshman class They will open their doors the coming fall with still further increase of attendance, while those colleges which fail to grasp the situation and adapt themselves thereto, will be placed in an embarrassing position, as well as the extreme probability of having for their class of new matriculates an inferior quality of men The time is near at hand when the faculties will be looking into the work of the coming session and the question of the adoption of the new standard will be the all-important question of policy, if not already decided upon In view of the emphatic resolutions adopted at several sessions of the ASSOCIATION under whose auspices this JOURNAL is published, we are reminded that this is an opportune time to discuss this subject There is no known excuse why the colleges should not at once unanimously adopt the four-year requirements If any exist, we will gladly give space for their citation in these columns, on the contrary, we believe the arguments in favor of the proposed change to be many and imperative, and until the action shall have been rescinded, we shall advocate that policy, in impressing upon the representatives of these schools the necessities of continued reform in medical education With the adoption of the four years course we will hear less upon this subject from Europe, and we will be able in the near future to point to a profession whose general information is upon a par with that of any European nation We shall look for the receipt of the usual grist of 1895 announcements with additional interest

THE NAVAL RE ORGANIZATION BILL

The young officers of the line of the Navy have concocted a new scheme for speedy promotion, which, if worked through Congress as at present framed, will do the Medical Corps great harm

The new bill is neither in the interest of economy or efficient service, and as already intimated, was apparently born of a desire to secure promotion without regard to the great injustice inflicted upon the staff, or to the older officers of the line who are unfavorably affected by the bill

One section alone of this iniquitous bill shows its true nature quite clearly It is that which provides for ten additional rear admirals We now have six, to command the 8,500 enlisted men of the Navy, when the Army of 25,000 enlisted men are satisfied with three major generals, (having the same rank as rear admiral) It is well known there are only five stations which require rear admirals, if this bill should pass there will be eleven rear admirals on shore to help increase the deficiency in the treasury There are now 719 line officers on the active naval list of whom more than half are on shore, if we leave out of the count those on coast survey duty, and count them as at sea

The reserve list created by Section 14 of this bill puts out of active service some of the ablest men in the Navy, and operates to reduce the pay of the Medical, Pay and Engineer Corps, simply that some young line carpet knights below the rank of lieut-commander may be promoted

"Why," asks the correspondent of the *Brooklyn Eagle*, "should a doctor's pay be diminished because of any change in the line? His value does not depend upon the line The market value of a doctor does not depend upon the supply of ensigns He comes from civil life, and his pay should be fixed at what good men of his profession are worth What has a paymaster's pay to do with the line? His bond of $25 000 and his responsibilities in handling thousands of dollars, his business instincts and training are what should be considered These men have educated themselves, and no officer of the staff can reach the ultimate high pay of the line or hope for the remarkable promotion provided for the line by this bill Any one can see who reads this bill that it is a line measure and a measure for only a part of the line It degrades the staff and makes it the servants only of this part of the line It makes a plaything of the Navy for their benefit—a costly plaything It creates in its provisions for promotion what might be called the lottery scheme for the line of the Navy The senior lieutenants, lieutenant commanders commanders and captains either draw prizes or are turned down Commanders who feel quite certain of selection say that they fully expect to be rear admirals within two years of the passage of this act, *many* lieutenants will be *commanders* and ensigns lieutenants This bill benefits those in the line who profit by the reserve list All other officers are tributary to them, and either lose all prospect of a better future or contribute directly to the support of those fortunate enough to be rapidly advanced A minority desire ultimately to profit tremendously It is the active aggressive minority which is endeavoring to push to the wall all who are in the way This lottery scheme of the Navy has by its very proposal already done much to injure the morale of the service The people of this enlightened country will never understand this mixture of extravagance and injustice

"Another feature of this reserve list is that it is perpetuated It does not die with the ninety five men blacklisted Section 12 provides that there shall be each year sixteen promotions in the list of sea going officers to the grade of commander and twenty promotions to the grade of lieutenant commander, and that when this number does not occur naturally it is to be created by forcing a sufficient number of officers from these grades on the reserve list This blacklisting and scramble is to go on indefinitely, and for every man so degraded another enters to keep the line corps up to 720 No such firebrand as this bill has been cast at the Navy since 1855 It is a mistake to think that this bill is wanted by the service at large It is opposed by 90 per cent of the line officers of and above the grade of lieutenant commander and by every member of the Medical, Pay and Engineer Corps Along with the desire to kill the ambition of the best part of the line, there is woven in this bill the intention to hold down and oppress the staff corps It treats the Medical, Pay and Engineer Corps, as if designed expressly for the purpose of destroying their efficiency, humiliating their members and making them the servants of the line branch rather than of their country Such a bill as this is devoid of every sign of justice and fair play The Medical, Pay and Engineer Corps are absolutely essential to the efficiency of the naval service"

It seems impossible that such a wholesale plunder of the public treasury would or could pass Congress We read of the forty admirals now on the retired list, and we have read of the forty thieves We sincerely trust that the zeal for promotion of the young midshipmen, will not lead to the general belief that the terms may become synonymous

"SUNDOWN DOCTORS AND EVENING COLLEGES"

In our Washington news of January 5, note was made of an order of the Commissioner of Pensions preventing clerks in the Bureau, who are physicians, from practicing medicine after office hours In this branch of the government service, as well as in others, there are a number of graduated physicians who attend patients after office hours and are known as "Sundown Doctors" This item has been recurring frequently to our mind since it was published, and always coupled with the idea that if there were no evening colleges in Washington, D C, there would be fewer "sundown" doctors in that city A medical man may find practice unremunerative or uncongenial to him and may accept a place in the government service, particularly in the Bureau of Pensions, the Record and Pension Division of the War Department or the Office of the Surgeon-General of the Army, Navy or Marine-Hospital Service, where his medical knowledge would increase his clerical efficiency and status There would, therefore, always be found in these offices a certain number of medical graduates, most of whom, however, would be satisfied with their official position

The Federal Capital is almost the only city in the United States where are to be found medical colleges with a lecture program which begins no earlier in the day than 5 30 P M The object of these late lectures is evidently to gather in from the Departments those ambitious young men who feel that they were made for something better than the routinism of departmental office work Medical study and, with due respect to the faculties, medical teaching, to be efficient, should put to use all the mental energy of the individual Night classes, therefore, can not be productive of as good results as day classes The clerk, who has studied and graduated at a night school hesitates to cut adrift from his clerkship to undertake the responsibilities of life in his new profession and he practices, as he studied, after sundown The medical colleges of Washington point with pride to their record and their lists of graduates to show their status, but since they do so well now, it is evident that they would do better and stand on a much higher plane if all the brightness of the day instead of only the dullness of its fag end were devoted to the work of education One night college is enough for the needs of those who can not afford to give the day to study The other colleges of the Federal City should call for the best energies of their students and support their curriculum with the best energies of their teachers With the four years' course which is now required, with their able professors and well-equipped laboratories, and all the facilities which Washington offers for medical study there is wanted only day classes to make that city an educational center of national importance

THE WEATHER BUREAU AND SANITARY CLIMATOLOGY

Last year the Chief of the Weather Bureau sent out a letter to sanitarians and others, inviting opinions on the best means of making the weather service of the United States of benefit to sanitary science The Editor of this JOURNAL among others sent a rather lengthy letter dated Jan 20, 1894, giving suggestions in detail We are therefore greatly pleased to see that the Bureau has moved in the matter, and we feel sure that its action will be sustained by the medical profession generally The great influence of climate in the etiology and as well in the therapeutics of disease, has been so little studied, that it is very gratifying to see that the Agricultural Department is prepared to start the movement

The following circulars are self-explanatory

Circular No 3 Sanitary Climatology

U S DEPARTMENT OF AGRICULTURE
WEATHER BUREAU
WASHINGTON, D C, Jan 2, 1895

To the Editor —At the instance of the Honorable the Secretary of Agriculture, the Weather Bureau will extend the scope of its work, as set forth in the accompanying circular

As there are doubtless many persons who may be interested in the proposed investigation and willing to cooperate and whose names are not known to the Bureau, I would be pleased if you would give notice of this investigation in the columns of your publication

Very respectfully,
MARK W HARRINGTON, Chief of Bureau

Circular No 1 Sanitary Climatology

U S DEPARTMENT OF AGRICULTURE,
WEATHER BUREAU
WASHINGTON, D C, Jan 2, 1895

The interest manifested by every class of people in ths subject of climate and its influence on health and disease has determined the Honorable the Secretary of Agriculture, through the medium of the Weather Bureau, to undertake the systematic investigation of the subject

It is hoped to make the proposed investigation of interest and value to all, but especially to the medical and sanitary professions, and to the large number of persons who seek, by visitation of health resorts and change of climate, either to restore health or prolong lives incurably affected or to ward off threatened disease

The study of tne climates of the country in connection with the indigenous diseases should be of material service to every community in showing to what degree local climatic peculiarities may favor or combat the development of the different diseases, and by suggesting, in many instances, supplementary sanitary precautions, also by indicating to what part of the country invalids and health seekers may be sent to find climatic surroundings best adapted to the alleviation or cure of their particular cases

The hearty cooperation of the various boards of health, public sanitary authorities, sanitary associations and societies, and of physicians who may feel an interest in the work, is asked to achieve and perfect the aims of this investigation

No compensation can be offered for this cooperation other than to send, free of cost, the publications of the Bureau bearing upon climatology and its relation to health and disease to all those who assist in the work

Cooperation will consist in sending to this office reports of vital statistics from the various localities That these reports may be of value, it is evident to all that they should be accurate and complete, and be rendered promptly and regularly Blank forms of reports have been prepared so as to occasion as little trouble and labor as possible on the part of the reporter, and will be furnished by the Bureau on application

At the very beginning of the investigation it is not possible to outline precisely the channels through which the results obtained will be made public, but it is hoped to publish soon a periodical devoted to climatology and its relations to health and disease The publication will probably resemble in size and general appearance the present *Monthly Weather Review*, the subject matter being, of course different

More detailed information will be furnished on application

MARK W HARRINGTON, Chief of Bureau

ANONYMOUS COMMUNICATIONS

We beg to announce once more to correspondents that anonymous communications can not and will be noticed or published in the JOURNAL We have received a number of them in the last two weeks A gentleman writing a communication attacking any one, should be willing to put his name to it for the information of the editor, even if not for publication Some of those recently received we would have printed in the Correspondence column with pleasure, but as the author did not give any clue to his identity we were unable to use them

CORRESPONDENCE

Medical Medals—Request for Assistance

NEWPORT, R I, Jan 15, 1895

To the Editor —In the course of an enumeration of the medals illustrating medicine that have continuously appeared in the *American Journal of Numismatics* since January, 1889, several questions have occurred which I have failed to settle, and concerning which I shall be very glad for aid

British America Dr Richard Noble Starr, of Caradoc, Canada What were his dates of birth and death? Dr Orrin C Wood of Montreal His middle name, and dates?

Central America Dr Perfecto G Bustamente, of Gaudalajara, Mexico His middle name, and dates?

South America Dr Alacombe, Puerto Cabello, Venezuela Who was this person? If a medical man, his dates and full name? Dr Pedro Ascarrinus, of Bolivia His dates and city of residence? Dr Juan Adriano Chasas, of Asuncion Paraguay Was he a physician or a lawyer? If the former, his dates?

The United States Dr C P Bronson,* an apparently irregular ophthalmologist What were his full name, his dates and his residence?

Dr Selleck, connected with Chesebrough, Stearns & Co , of New York Who was he and what his full name and dates?

United States Medical Colleges The medals have been described of the Medical College of Alabama, (Nott), Medical Department of Yale University, (Campbell), Harvard University, (Boylston), one of those of Medical Department of Long Island, C H (Dudley), one of the two of Medical Department of Rutgers College (Rutgers), College of Physicians and Surgeons, N Y (Harsen), University of City of New York (Mott, 2), Sterling Medical College, Jefferson Medical College (Toner), Alumni Medical Department, University of Pennsylvania, Anat and Phys, Amherst College (Sawyer), Hahnemann Medical College of Philadelphia (2), Eclectic Medical College of New York (Newton), Missouri Dental College (J Hunter), and New York College of Dentistry (2)

Of the following, descriptions are desired Where, instead of being wholly "struck," they are partially or entirely engraved the fact should be stated, as the last of these conditions is not recognized by numismatists Medical Department of University of California Medical Department of University of Louisville, Missouri College of Medicine, Baltimore Medical College, Medical College of Virginia, Medical Department of Hampden Sidney College, Medical Department of Long Island C H (second medal), Medical Department of Rutgers College (citizen's medal Who was this "citizen of New York?"), Woman's Medical College of Chicago, Woman's Medical College of Baltimore, Columbia Veterinary College, New York California College of Pharmacy, Maryland College of Pharmacy, Philadelphia College of Pharmacy, Cincinnati College of Pharmacy, Alumni St Louis College of Pharmacy, College of Pharmacy, City of New York, and Pharmacal Department of Vanderbilt University

United States Hospitals The medals have been given of St John's Guild Floating Hospital, New York, (2), German Hospital, New York, Methodist Episcopal Hospital, Philadelphia, United States Naval Hospital, Portsmouth, Va , National Asylum, Augusta, Me , Boston City Hospital Training School for Nurses, Bellevue Hospital Training School for Nurses, New York, Mt Sinai Hospital Training School for Nurses, New York, Philadelphia Woman's Hospital Training School for Nurses, University of Pennsylvania Training School for Nurses, Waltham, Mass, Training School for Nurses St Barnabas (Nurses') Guild, Nederland Israelitish Sick Fund, New York, Washington Kranken Unterstultzungs Verein, New York, Medical Charities, Philadelphia, and of the United States Sanitary Commission the following Citizens' Volunteer Hospital, Philadelphia (2), Union V R S Fair, Philadelphia, 1863, Nantucket Mass, Fair, 1864, New York Fair, 1864, Philadelphia Great Central Fair, 1864, (4), also Howard Association, Norfolk, Va, 1855, Savannah Banner Association (Yellow Fever), 1876, and Howard Medical Corps Memphis, Tenn , 1878

United States Medical Societies I have given the medals of AMERICAN MEDICAL ASSOCIATION, (2), Ninth International Medical Congress, 1887, (2), Columbian Dental Congress, Chicago, 1893, Louisville Medico Chirurgical Society, and American Pharmacal Association (Block House, Pittsburg) There is another of the last of these institutions, and one of the Medical Lyceum, Philadelphia, 1808, about which I am still in doubt Concerning that of the World's Hygienic Exposition, Chicago, 1893 (struck in Belgium), I have but recently ascertained

Information concerning any medical medals, not indicated above, will also be duly valued

HORATIO R STORER, M D

* C P Bronson, M D Lived in Louisville, Ky, was a traveling lecturer on Elocution, and published a book on the same —ED

Department of Public Health

CHICAGO, ILL, Jan 22, 1895

To the Editor —It is hoped that the present session of Congress will make suitable provision for substantially carrying out that portion of the President's suggestions embodied in his message in December last, wherein he recommended that a "National Health Bureau be established" And it does not seem that any very great amount of additional argument should be necessary to bring about this important step of legislation

In a few weeks, the present Congress will be "history" Before its *demise*, it might do something in the way of genuine reform in public health matters, and the well-known maxim, "*Salus populi suprema est lex*," prevail

If, on the other hand, the present Congress should interpose dilatory objections and pass this measure by, without creating such a branch of our federal government, for obvious reasons it appears to the writer, legislation with the delays liable to occur in future that will be necessary to carry this through to a successful termination, may require two years longer before it is done This not improbable delay therefore may involve serious consequences to the national health, as well as prove disastrous and detrimental to the commercial interests of our country, of which enough of the latter has already occurred to satisfy the people for generations to come In a word, then, it is a condition that confronts us as members of a noble profession having at heart the welfare of the nation

More than ten years ago (*vide* Proceedings of the Chicago Medical Society, September and October, 1884) expediency and timely action was urged upon our National legislators in this direction It appeared then, as it does now, that there is a sanitary work which can be done and exacted by the National government, *pro bono publico*, of local or municipal boards of health who can not be made to comply, or who will not comply with the request of another board of equal importance, as has been the case a number of times within the past few months, in at least one of our large cities where the chief executive officer of the Health Department refused absolutely to furnish reports regarding smallpox What good was to be gained by suppressing the truth concerning this greatly dreaded malady is beyond my comprehension

This proposed department of the government, with a medical secretary of the same, will not only be in concord with, but cooperate in friendly professional intercourse with other health organizations, sanitarians and scientists, and in a more methodical manner it is believed it will be the means of preventing an outbreak of any of the pestilential diseases throughout the country, as well as to prevent the introduction of them in the larger cities or in different portions of the States of the Union Or, in case any form of disease of a contagious or infectious nature should get a foothold, efforts to suppress it if it be of endemic character, or epidemics of all kinds would be more thoroughly accomplished and sooner brought under control To accomplish this, the secretary of this proposed department should be clothed with, or granted full power for the investigation of epidemics and preventable diseases, and be provided with necessary funds for this specific purpose

Last year, Prof C B Comegys, M D, of Cincinnati, was obliged to resign the chairmanship of the special committee of the AMERICAN MEDICAL ASSOCIATION appointed for the above purpose For four years he labored assiduously and did much toward bringing about this greatly desired end Dr Comegys is entitled to great honor and credit for his diligence and painstaking labors in this matter, and he is still an active member of the committee The committee which has had this subject under consideration has profited by the experience of its former chairman and his colleagues and now has at its head a gentleman who is equally well known in sanitary matters as his predecessor, Dr Jerome Cochran, of Montgomery, Ala, who with the assistance of his coadjutors if all signs point correctly, will ably present this important subject to the Baltimore meeting in May next Unless the medical profession, and the press, both medical and secular throughout the United States work hard and speedily impress upon Congress the necessity of passing the bill prepared by Dr Comegys and his fellow-committee men, or at least secure favorable report from the committees appointed by both branches of Congress, this measure will be lost

Why can not Congress gracefully create this apparently inexpensive branch of the government with a medical secretary of same, and a grateful country will be their reward

Let the profession be united on this subject and invoke the press and its efforts and appreciation of the country's need in this direction I doubt if there be any who deny that such a law should be enacted By so doing, consistent agitation on our part will not have been in vain

Very truly yours,

LISTON H MONTGOMERY, M D

PUBLIC HEALTH

Disinfection of Barbers' Tools —Blaise remarks, in *Annales de l'Hygiene*, that as certain diseases are transmitted by the tools used by barbers and hair-dressers, it is important to wash and disinfect them each time after being used As to the agents—carbolic acid kills the microbes effectually but its disagreeable odor precludes its use, boiling water rusts the instruments, even if nickel-plated, since the cutting edges are not plated Blaise thinks the best method is to dissolve 10 parts of carbonate of potash or soda in 100 parts of hot water and immerse the instruments in this solution, they leave this bath brilliant and free from oil Some of the essential oils may also be used, as many of them possess well established microbicidal properties There are also creolin and benzoic and thymic acids, whose use is widespread and their antiseptic powers incontestable

The Antitoxin in France —Preparations on a very complete scale will be completed by the close of this month, whereby the whole of France will be furnished with an adequate supply of the Roux-Behring serum The State has voted an annual sum of 100,000 francs to the *Institut Pasteur*, 20,000 of which are allotted to the vaccination department of the Academy of Medicine and the remainder is to be used for the propagation and gratuitous distribution of the diphtheria antitoxin to charitable institutions It is estimated that a stud of from 130 to 140 horses will supply all the serum required for the entire population of the country, that the entire cost of their care and maintenance, the preparation of the serum and postage upon the tubes, will not exceed 180,000 francs—of which sum the State appropriation contributes 44 per cent, leaving 100 000 francs to be made up by the sale of the serum to those able to pay for it, and by municipalities and departments who will defray the expenses of maintaining one or more animals at the *Institut*—the department of the *Bouches du Rhone*, for example, will maintain six horses for its own supply The annual expense is computed at 1 000 francs per animal, and this will secure a monthly supply of 150 injections of 20 c c each

Contagious Diseases —Except influenza the contagious diseases seem to be on the decline throughout the country generally In isolated localities diphtheria is as prevalent as in the closing months of last year but its epidemic tendency in the large cities has subsided So too with smallpox, Secretary Wingate of the Wisconsin State Board of Health, reports only 13 new cases, with no deaths, during the week ended January 19, in the State at large during the same period, 3 cases, 1 death, were reported at Mishicott, 4 cases in Gibson Tp, 2 cases at Two Rivers 1 case, 1 death at Fond du Lac and 1 case in Fountain Tp Dr F W Reilly, who has been placed in charge of the Contagious Disease Bureau of the Chicago Health Department, reports the total number of new cases in that city for the first twenty-two days of January, as follows Reported by physicians and inspectors, 129, found by inspectors and not previously reported—convalescent, 2, dead or dying, 6, total, 137 Of this total, 128 cases were removed to the isolation hospital, 1 case was isolated at residence, the 2 convalescents were disinfected and the dead and dying were taken charge of by the inspectors, the premises disinfected and the exposed vaccinated The hospital statistics for the month are as follows Remaining at midnight, Dec 31, 1894—84, admitted, Jan 1—22, inclusive,—128, total to be accounted for, 212, discharged convalescent, 78, died, 32, remaining, 111 Mortality per cent, 15 5

Sanitary State of Calcutta —The report for the year ended March, 1894, of Dr N J Simpson, Medical Officer of Health for Calcutta, contains some interesting facts The barometric presence during the year oscillated between a minimum of 29 58, in July and a maximum of 30 04, in December The mean temperature for the twelve months was 76 95 F, with a maximum of 88 55 and a minimum of 63 05 While all the months of the year are remarkable for a very marked degree of humidity, the months from May to September are the true rainy months There was much more rain than usual—in December only was there no precipitation The births reported numbered 13,492 or 19 7 per thousand, this is higher than for the preceding five years, during which it varied from 18 to 18 6 per thousand, the Mahommedans are always the least prolific The deaths numbered 20,113—a rate of 29.5 per thousand for the year, as against 20,180 for the previous year The different populations as indicated by these figures of births and deaths—*Journal d' Hygiene*—will not be overlooked The number of births and the birth rate indicate a population of 365 592, the number of deaths and death rate indicate a population of 593,333 In the Mortality Table of Foreign Cities, *Abstract of Sanitary Reports*, the population of Calcutta is estimated at 681,560, Mulhall (1892) reports the population by the official census of 1891 to be 840,130 Separating the city from the suburbs the following are the death rates from 1889 to 1893 Urban Calcutta, 26 4 per thousand (25 9 in 1893–4), suburban Calcutta, 37 per thousand (37 1 in 1893–94) It is worthy of note that the deaths from cholera in 1893–94 numbered only 273

School Diffusion of Infectious Diseases —In an analysis of deaths from diphtheria in London during the last thirty years, Mr Shirley Murphy has shown that, comparing the ten years, 1881–90, with the previous decennium, there was an increase of diphtheria mortality at all ages, but most marked at the 3 to 10 years age-period Mr Malcolm Morris, the newly appointed editor of the *Practitioner*, adds that this general indication—that the ominous increase of fatal diphtheria has taken place mainly among children of school age—is further borne out by the mortality statistics of 1891-2-3 Comparing 1891–93 with 1861–70 it is found that the diphtheria mortality has risen 196 per cent taking all ages, but while the increase is only 53 per cent at ages over 10 years and 173 per cent at ages under 3, it is no less than 309 per cent at ages from 3 to 10 A connection is established between this increase and the operation of the Elementary Education Act of 1871, and Mr Morris says "It is clear that part of the price which has to be paid for the inestimable boon of universal elementary education is an increased facility for the diffusion of certain infectious diseases, a facility which has not been entirely neutralized by all the precautions which the several authorities concerned have been able to bring to bear, even with the assistance of compulsory notification" The discussion and comments add weight to the recommendations which the health authorities of Boston, Chicago and some other cities in this country, have tendered to school boards and boards of education In brief, these are that all interior surfaces of school buildings which children are likely to touch should be washed at least once a week during the school year with the mercuric chlorid solution, that the use of slates and pencils and of slate sponges should be abandoned for pencil and paper—the wetting of the pencil tip with the tongue or the putting of the pencil in the mouth to be forbidden, and that the floors of school rooms, passages, stairs, etc, should be strewn before sweeping with sawdust wet with the disinfecting solution and the sweepings burned at once

Creosote Poisoning by the Therapeutic Dose —A fatal case of creosote poisoning by the therapeutic dose is reported, the result being attributed to the use of milk as a vehicle The drug was prescribed for a female patient who took three 6-drop doses in twenty-four hours Soon after the third dose she exhibited symptoms of intense gastro intestinal irritation, accompanied by anesthesia and partial paralysis of the soft palate and vocal cords, and, moreover, presented erosions of the buccal and pharyngeal mucous membrane albuminuria and signs of heart failure, her breath had a strong odor of creosote and she died in a week The necropsy revealed extensive bloody suffusion of the stomach and intestines and ulcerations of the esophagus and of the pylorus fatty degeneration of the liver, acute nephritis and hyperemia of the brain Zanalski, who reports the case in the *Centralbl f Inn Med* thinks the poisoning was due to the mode of administration, creosote is insoluble in milk, and acts as though given alone He asserts that no other case of idiosyncrasy for the drug has been observed, but advises to begin its exhibition with doses of one or two drops and proceed to larger doses with caution

Influence of Etherization upon Temperature —Angelesco reports a series of observations in *Le Progres Medical* which he made on fifty patients in Professor Chaput's service He arrives at the following conclusions 1, the temperature is lowered during the whole of the anesthesia, 2, this lowering presents an oscillation much more pronounced at the beginning of the anesthesia—in the first hour the decrease varies between 2 degrees and 2 5 degrees, in the second hour it is less marked, only some tenths of a degree, and this difference between two consecutive temperatures is most marked in the first and second quarter hours, 0 7 to 1 degree in the first, and 0 4 to 0 5 degree in the second quarter, 3, the decrease continues very slightly during the profound sleep following anesthesia, varying between 0 1 and 0 3 degree, 4, after waking the temperature rises, following an inverse curve to the first The oscillations, feeble at first—0 1 to 0 3 degree—become stronger as consciousness is regained and when this is nearly restored the oscillation means are 0 7 to 0 8 degree Besides all other causes producing lowered temperature after anesthesia the author thinks that the diminished temperature,—lower with ether than with chloroform,—points to a very marked vasodilatation in the former case The face of a patient under ether narcosis is nearly always congested, chloroform, on the contrary, produces vaso constriction, as proved by the pale face

MISCELLANY

A Curious Legacy —A Parisian artist recently attempted, unsuccessfully, to commit suicide He left a will bequeathing his body to the Zoölogical Gardens for food for the lions and tigers The next attempt was successful This time he left his body to the Academy of Medicine, which refused the legacy, and the body was turned over to the family

Chloroform the Favorite —*Les Noveaux Remedes* has compiled the statistics of 52,475 administrations of anesthetics, with the following results Chloroform, 33,083, ether, 11,669, A C E mixture, 3,896, bromid of ethyl, 2,986, Billroth's mixture, 750, nitrous oxid, in dentistry, 91 Chloroform was used in 63 per cent of the total administrations, ether in 22 per cent, and all others combined in 15 per cent

A Sign of Hereditary Syphilis —At the French Congress of Dermatology and Syphilography (*Rev Int de Med et Chir*), M Jullien mentioned a malformation of the jaws which seemed to him to be characteristic of hereditary syphilis It consists in the projection of the upper jaw beyond the lower, either all around or only in front He has observed this ten times, in nine cases it was connected with manifestly hereditary syphilis, the tenth case was simply suspicious

Faculty of Medicine of Vienna —In this winter's semester the Vienna Medical Faculty contains (*L'Union Medicale*) twenty-eight ordinary professors, thirty nine extraordinary professors and eighty-two privat docents and assistants In the last semester there were 2,427 medical students—nearly half the students in the whole University Of these 1,584—119 less than for the corresponding period in 1893—were ordinary students, 322 extraordinary and 521 special

French Congresses of Surgery and Internal Medicine —The ninth session of the French Congress of Surgery will be opened Oct 21, 1895, in the Faculty of Medicine The topics for discussion are 1, surgery of the lung (except the pleura), 2, on early or late operative interference in solutions of bony continuity (except the cranium) The second session of the Congress of Internal Medicine will be held at Bordeaux, either in August or September, 1895 The subjects are 1, On infectious myelitis, 2, the relations of the liver and the intestine in pathology, 3, on analgesic anti-thermic agents

Toxins Treatment of Sarcoma —In a study of a few suggestive cases (*Medical Recorder*) Dr Edmund Andrews details two cases of sarcoma treated with the mixed toxins of streptococcus erysipelatosus and of the bacillus prodigiosus He concludes that these two cases, with some others similarly treated, show that these toxins have a power analogous to that of tuberculin, that as tuberculin is capable of causing the death of tuberculous tissue, so the toxins have the same effect on sarcoma Nevertheless, "so far as these two cases go, it would seem that the destruction of very large sarcomata by these means in weak patients is apt to terminate in fatal exhaustion" The writer thinks that probably tumors of medium or small size might give more successful results

Anatomy and Art —Dr Robert Fletcher discussed the relation of these subjects in an able and interesting way in his annual address as President of the Philosophical Society of Washington, D C, December 12, last Every paragraph of his essay, now published in pamphlet form, scintillates with notes, suggestions, references and anecdotes drawn from the history of art Taste in art is not inherent in man, its culture requires long study, close observation and familiarity with the best masters By its brief review of the work of these masters, Dr Fletcher's address will do much for the cultivation of artistic taste in those who give it the atte tion which it merits His conclusion, that an acquaintan with muscular anatomy by dissection, though to be recon mended as useful, forms but a comparatively unimporta part of artistic anatomy, is fully borne out by the consider tion that, "The noble works of Phidias and his contemp raries or successors were in existence long before the ti when Hippocrates began the work of rescuing medici from the priests and made a first imperfect sketch anatomy"

Expressions of Pain as Evidence —It is well settled, declar the Appellate Court of Indiana in the case of Anderson Citizens' Street Railway Company, decided Nov 27, 189 that whenever the bodily or mental feelings of a person a material to be proven, the usual expressions of such feelin made at the time are original evidence The statements representations of a sick person of the nature and effect a malady or injury under which he is laboring, or expre sions of existing pain, it therefore holds, are admissible original evidence, and this is so whether they be made a medical attendant or other person

Liability to County for the Support of Insane in New York Sta —It has been held in New York (City of Albany v McN mara, 117 N Y 168) that a person receiving aid as a po person from the officers of the poor in a city or county, the absence of any representations on his part as his responsibility or physical condition, incurs no liabil to repay the amount expended on his behalf Th doctrine, the general term of the Supreme Court now hol in the case of Oneida County v Bartholomew, decided N vember, 1894, applies, in the absence of any statutory pr vision to the contrary, where an insane person is su ported at the county insane asylum as a poor person U der such circumstances there is no liability on the part the person receiving the support, or on his estate, to rep to the county the expense

Therapeutic Value of Seine Water —An item has been exte sively copied in medical journals of late, giving the numb of animals found in the Seine, which reminds the *Gaze Medicale De l'Algerie* that in 1775 a work was published e titled, "Physical, Chemical and Economical Dissertation the Nature and Salubrity of the Seine Water, by M Pa mentier" This author declares that there is no mate medica or dictionary which does not say something on t properties of the water from the Seine Some authors al mention it in their works The Count of Forbin, amo others, says in his memoirs that, being affected with viole colics in Paris, he only found relief and a cure by t abundant use of Seine water, by baths and drinking "Many officers of rank were only cured of insupportab headaches phlegms, and nerval affections, by taking by m advice a pint of the water, cold, early in the morning Our contemporary thinks the Faculty should bring th remedy to the notice of the profession

Can Patients Smoke?—Jankau (*Zeitsch f Krankenpfleg* thinks that patients may be permitted the moderate use tobacco, especially if they are used to it All those wi surgical disorders he says, may smoke, except those conv lescing from operations on the bladder or abdomen should be forbidden in affections of the eyes, nose a pharynx Among patients with medical disorders, tho with peritonitis and typhoid affections should not use t bacco In gastric diseases they may smoke if the smoke filtered In cardiac affections very little smoking may allowed It is sometimes indicated in pulmonary affectio and also in syphilis In nervous affections it is difficult say—sudden stoppage of tobacco is inconvenient and, on t other hand, in cardiac neuroses smoking is to be permitte only when the smoke is filtered The author says smokin should not be permitted in wards with many patients an that the best time for it is several hours after meals

Treatment of Chloroform Asphyxia —At a recent *seance* of th Paris Academy of Medicine, reported in the *Bulletin* of th Academy, Labbé said that in apparent death, from chlor form, he was firmly convinced that artificial respiratio should be persevered in for a long time and instanced many cases in support of this advice—particularly one in which he had kept up artificial respiration for twenty-seven minutes and was finally rewarded with a remarkable success Lately, however, he had used rhythmical traction of the tongue, suggested by M Laborde, in the case of a child who, soon after beginning the chloroform inhalation, became asphyxiated Death seemed absolute, the pupils were dilated to the utmost As soon, however, as he began the rhythmical traction of the tongue the patient returned to life with marvelous rapidity, it was a genuine resurrection He believes this method is preferable to artificial respiration, as it is easier and much quicker Professor Verneuil said that for some time he had used only lingual traction, alternating with flagellation of the epigastrium with a wet towel

A Proposed Hospital for the Homeopathic Insane — A bill has been introduced in the Illinois Legislature providing for the establishment of a hospital for the insane to be managed on "homeopathic" principles, whatever they are The existence of the "homeopathic" sect shows some mental aberration, but this is the first public admission we have seen that any considerable proportion of them required confinement There is nothing infinitesimal about the proposed appropriation, as the bill provides for an expenditure of $400,000

Journal of the American Public Health Association —No 1, volume I, of this *Journal*, published quarterly, lies on our table It has a handsome face, and like all of the publications of the Association is well printed The papers in this issue comprise the larger proportion of those read at the Montreal meeting, which have been fully abstracted in this JOURNAL We congratulate the Association upon their handsome publication, and believe that it will have a great field in the advancement of sanitary science on this continent

The Absorption of Guaiacol —The question whether the quantity of guaiacol eliminated by the urine in a given time, is the same when the drug is employed pure, or when mixed with glycerin, has been studied by O Sturbe, whose tests were made in a series of skin paintings That observer has found that pure guaiacol is absorbed more quickly than when mixed with glycerin or oil of almonds, and that the glycerin embarrasses absorption considerably and uniformly retards it, notwithstanding that the oil of sweet almonds retards absorption at first, but left alone, absorption is effected in from one and one half to two hours easily enough —*Courrier Médical*

The Proposed Testimonial to Sir Henry Acland —The friends of Sir Henry Acland propose to take the opportunity of his retirement from the Regius Chair of Medicine to "mark their appreciation of the great services which he has rendered to Oxford and the country at large and the kindness he has done to individuals To him is mainly due the foundation of the schools of natural science in the University, the initiation of teaching in biology, and the high standard maintained by the Oxford medical degrees There are few persons who have not profited by his labors in the study of sanitary requirements and of the laws of public health "

Subscriptions will be received by Parsons & Co , Old Bank Oxford , London , and County Bank, Oxford , Wooten & Co , Oxford, and Gillette & Co , of Oxford It is proposed to make provision from this subscription for the increased usefulness of the Sarah Acland Home for Nurses

Relation Between the Physician and the Pharmacist —Mr Wm J Evans, of New York, made the following response to the toast assigned him at the banquet of the Mississippi Valley Medical Association, at Hot Springs

"When the ultimate Jenner, Lister, Pasteur, Koch Behring, and Roux in the ultimate institutions of preventive medicine have developed that which shall be ultimate materia medica and pharmacology, it may be found that the last branch of study to approach an exact science will have given its fuglemen such fame as to prove that it was certainly not the least among their notable achievements

' In representing the chemist and the pharmacist, I feel obligated to say for them that they are conscious that no man liveth unto himself Their occupation may be one which they like or dislike, but it is an occupation second only to that of the practice of medicine in the matter of making society possible The public health is public wealth, and the grandest aggregation is the possession of valuables by the valiant In expecting that the medical men will adopt the motto, let the standard be so high that he who fails may say, ' What I aspired to be and was not, comforts me ' The chemists and pharmacists are more than happy in adopting the motto, 'There is no office in this needful world but dignifies the doer if well done ' Will it be too much for the patient to expect, who is our nearest and dearest relation, that both schools shall adopt the motto of the great painter, who said 'Whatever of strength, whatever of dignity we have within us, will dignify and make strong the labors of our hands Whatever littleness degrades our spirit will lessen them and drag them down , whatever noble fire is in our hearts will burn also in our work , for as we are, so our work is, and that which we sow in our lives, that without doubt we shall reap for good or ill in the strengthening or defacing of whatever gifts have fallen to our lot '

"Gentlemen, I have much pleasure in asking you to enlist with the chemist and pharmacist in a pledge to contribute to that which shall live after the fads and fallacies of pharmacy are forgotten "

Tours of Duty in the Army Medical Service —The following circular was issued, Jan 9,1895, from the office of the Surgeon-General of the Army

The tour of duty for medical officers below the rank of Major at the following stations will hereafter be two years, which time will be considered as equivalent to a full tour of duty in the Military Department in which the several stations are located

This, however, must not be considered an absolute rule, as the interests of the service may frequently call for a change of station within the department or to another department before the regular tour of duty has expired, and circumstances may sometimes make it advisable to extend the tour of duty of a medical officer beyond the time specified

Alcatraz Island California
Fort Brown, Texas
Columbus Barracks Ohio
Fort Columbus, New York
Fort DuChesne Utah
Eagle Pass, Texas
Fort Hamilton New York
Fort Hancock Texas
Fort Mason California
Fort McIntosh Texas
Camp Merritt Montana
Fort Myer, Virginia
Fort Porter New York
Fort Ringgold Texas
San Carlos Arizona
Fort Thomas Kentucky
Fort Trumbull Connecticut
Fort Wadsworth New York
Fort Warren Massachusetts
Washington Barracks D C
Washington D C
Fort Wayne, Michigan

GEO M STERNBERG, Surgeon General U S Army

Approved

DANIEL S LAMONT, Secretary of War

Outside of the announcement by Surgeon-General Sternberg in 1893, that those captains of the Medical Department who were nearing their examination for promotion would be assigned for a year as attending surgeons in certain cities, to afford them facilities for study and professional improvement, the circular just issued is the first formal intimation given to Army medical officers of the probable length of their tour of duty at any specified station Since the close of the civil war, it has generally been understood that the Surgeon General in assigning officers to duty considered the locality and character of their previous service A tour of duty in the West has usually been followed by an assignment to an Eastern post, service in the field or at an isolated post by service at some military station near a city where the refinements of civilization with opportunities for professional culture might be enjoyed The length of the tour at one post or in one department was four years except for junior officers whose service in the East was limited to two years at a time The circular just issued modifies this by restricting the two years term to twenty-two stations, among which are included the best of Eastern and the worst of the Western posts Instead of moving the junior officers from all the Eastern stations, after two years service those only will be moved who have enjoyed the advantages presented by the vicinity of large cities, and instead of having a four years tour for all the Western posts, the young officer who has endured the discomforts of such places as San Carlos and the Texas posts, will be relieved at the end of the two years term of service By this arrangement the number of moves and consequent expense of transportation will be lessened, and the advantages of the good stations and the disadvantages of the bad ones will be more equably distributed than by the method previously in force

Statistics of Intestinal Resections—E Becker publishes in *Zeitsch f Chirurg* the statistics of resections of the intestines in Trendelenburg's clinic at Bonn for the last ten years They number thirty three, as follows Five for strangulated hernias, eleven for artificial anus following strangulated hernias, two for ileus, one for appendicitis, four for fecal fistulæ following perityphlitis, one for fecal fistula from a ruptured colon, three for cicatricial strictures due to tuberculosis and six for tumors These thirty-three resections resulted in twenty-one cures An examination of these statistics shows that an artificial anus gives better results than intestinal resection in the treatment of strangulated and gangrenous hernia Also that in the Bonn clinic it is the rule first to create an artificial anus and if necessary later to resect the intestine

Association of Agricultural Chemists—The Proceedings of the Eleventh Annual Convention of the Association of Agricultural Chemists, has just been issued from the Government Printing Office, Washington, D C, as Bulletin No 43, of the Division of Chemistry of the Department of Agriculture, the Chief of this division, Dr H W Wiley, being the able secretary of the Association The meeting of which this is the record was held in Washington, D C, in August last The objects of the Association are to secure uniformity and accuracy of the methods, results and modes of statements of analysis of fertilizers, soils, cattle foods, dairy products and other materials connected with agricultural industry, and to afford opportunity for the discussion of matters of interest to agricultural chemists The original constitution adopted in 1884, proposed as well to secure uniformity in legislation, but two years later the Association considered it best to confine its work to matters of a purely scientific character Its field of inquiry, as shown by the present volume, covers all branches of agricultural chemistry. Uniformity in analyses is obtained by the adoption of methods which have stood the tests of cooperative investigation by committees and full consideration by the Association, which methods are thereafter regarded as official Processes for the estimation of phosphoric acid, nitrogen, potash, sugar, foods and feeding stuffs, butter, milk and fermented liquors were adopted at the last meeting and are given in full in the report, which contains also many interesting papers on laboratory work on these same subjects A valuable part of the volume is the report of the Abstract Committee which in 629 abstracts gives the substance of all important articles published during the past two years in the chemical and agricultural journals of the world The volume thus forms a most valuable addition to the laboratory not only of the agricultural but the sanitary chemist

Abandonment of Mount Vernon Barracks, Ala—Mount Vernon Barracks, Ala, one of the nine posts recently abandoned under War Department orders, was situated twenty-nine miles north of Mobile, on a hill three miles west of the Mobile River and 150 feet above its level It was established in 1873 by troops from Mobile barracks in view of danger from yellow fever at the latter station Thirty-five acres of the reservation were inclosed by a brick wall, sixteen feet high, within which most of the buildings belonging to the post were aggregated The barrack building was of a more imposing character than those of any of the other recently abandoned posts It was a substantially built three story brick structure, 120 by 40 feet, with a tower four stories high and a porch with stairways affording entrance to each floor. The second and third stories were used unpartitioned as dormitories, giving over one hundred square feet and 1,000 feet of space to each man of their average occupancy The ground floor was used for kitchen and mess hall purposes The officers' quarters consisted of one or two storied brick cottages, each with an inclosed yard The offices, guard house and magazine also were of brick The storerooms were frame buildings on brick piers The hospital, a frame structure, excellent in its appointments, afforded space for fifteen beds, few of which were ordinarily occupied The dry earth system of sewage disposal was in use, with iron draw boxes in outhouses, but had the existence of the post continued for a year or two longer a sewerage system would no doubt have been introduced following the new water supply which is described in the report of the Surgeon General for the past year "The hydraulic ram has been replaced by a steam pumping engine, by which the water is raised to an iron tank of 36,000 gallons' capacity on the summit of the hill occupied by the buildings of the garrison This tank is elevated fifty feet from the ground and 150 feet above the level of the pumping station From this the water is conducted by four-inch mains to the barrack rooms, kitchens, officers and non-commissioned staff quarters and the men's water closets and bath rooms, also to the barracks of the Indian company and to hydrants in the camp of the Indian prisoners"

Some notoriety was given to this post by its selection as the place of imprisonment for Geronimo's band of Chiricahua Apaches At first little attention was paid to the condition of the prisoners, but the high death rate prevailing among them led to inquiry as to its cause Consumption among the older members of the community and diarrheal affections among the younger, occasioned the mortality, aided by the gross ignorance of the people and in many cases by their efforts at cure Every endeavor was then made by the officers in charge to reduce the mortality Excellent quarters were built for the prisoners The frame cottages constituting the Indian village, about three quarters of a mile from the post, were arranged in streets on each side of a central square Each cottage was twenty-eight feet square by twelve feet to the eaves, detached by a considerable interval from the others, provided with a cooking stove, beds tables and chairs and kept in a condition of thorough cleanliness At one angle of the camp was the barrack of Company "I" of the Twelfth Infantry, composed of male Indians of the military age—represented in official reports as a model of order and neatness outside and inside There was also built for the village a frame hospital of twenty beds, one storied, shingled and with an inclosing veranda with green blinds At first the hospital had little patronage, the Indians *preferring to be sick in quarters* and prescribed for by their own wise women and medicine men, but in progress of time they became as much accustomed to the hospital and the doctor as to the wash basin, bathing pond and cooking stove Nevertheless, the death rate did not fall During the first five years the rates per 1,000 living were 55, 51, 110, 146 and 110 They increased notwithstanding the care given to the sanitation of the camp The Surgeon General of the Army considered the mortality due to change of habits and that if the Indians were permitted to live on a larger reservation, preferably in a mountain country, their death rate would probably fall to its normal of about 40 or 50 per 1,000 The Indians were moved to Fort Sill Indian Territory, and the post of Mount Vernon Barracks was abandoned December 4, last

The Organs and Functions of the Cell as Described by Watase—We are learning to look to the cell as a highly intricate organism with organs of complex structure set apart for the performance of definite functions The boundaries of morphologic injury have, in the last few years, passed beyond the cell into the problems of the cytologic organs Many suggestive questions of this line of research have been dis cussed from various standpoints in recent biologic literature—nowhere, however, have they been more faithfully studied or more clearly elucidated than in the contributions of our foremost American cytologist, Dr S Watasé, of the Biological School of the University of Chicago

The first contribution from Watasé to which we desire to direct attention ("On the Nature of Cell Organization," Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl, 1893, pp 83-103) summarizes the new ideas of cellular structure The descriptive terms employed here are those recently proposed by Haeckel The animal cell consists of two distinct portions, the cell body proper (cytosome), and the nucleus (caryosome) The cell body is surrounded by a boundary layer or cell membrane (cytotheca) which *may be a distinct membrane, or only a thickened* border of protoplasm The nucleus is surrounded by its membrane, the caryotheca Within the cell body is encountered a network of solid "living" material, the cytoplasm, and a fluid which fills the meshes of this network, the cytolymph, acting as a medium of exchange for the living cytoplasm Granules of various kinds resulting from the metabolic activities of the cell are frequently encountered in the cell body, the metaplasm Within the nucleus a similar network and a fluid portion are found The nuclear network, or caryoplasm consists of a stainable portion, the chromatin, and of an unstainable portion the achromatin, which forms a delicate reticulum "In several cases, if not in all, these achromatic filaments are the actual continuations of the cytoplasmic network existing around the nuclear membrane" The nuclear fluid, or caryolymph, bathes the solid portions of the nucleus Lying in the nuclear substance, that peculiar organ of whose origin and destiny we know nothing, the nucleolus, is encountered, differing in its micro-chemic composition from the other nuclear contents

The solid portions of the cytosome and caryosome—the cytoplasm *and the caryoplasm—are the vital, living organs* of the cell, composed of individual particles which grow and multiply under favorable conditions The cytolymph and the caryolymph are inert media, in which the metabolic activities of the protoplasmic and nuclear networks are discharged

Another organ of great importance is the centrosome, that deeply staining body situated in the protoplasm of resting cells surrounded by the radiating fibers of the "attraction sphere" In explanation of the origin of this much discussed structure, Watasé ("The Homology of the Centrosome," *Journal of Morphology*, Vol III, No 2, 1893, pp 433-443) advances an ingenious hypothesis He directs attention to the fact that at certain points in the cytoplasmic network, thickenings or nodes occur which *stain like the centrosome* These nodes are the so called microsomes Now the centrosome marks the spot at which a great number of cytoplasmic filaments center, each one of which has imbedded in its substance one or more microsomes Assuming that each one of the cytoplasmic threads centering at the centrosome is provided with a microsome, then the centrosome would be a huge microsome, the sum of the individual microsomes of the filaments focusing at a common point The centrosome, according to this view, is not to be distinguished qualitatively from the microsomes that are everywhere present in the protoplasmic network, and, instead of being a distinct cellular organ as maintained by Flemming and other cytologists, it is only a "gigantic microsome" In a similar manner, Watasé explains the origin of the "cell plate," that row of deeply staining minute bodies appearing at the line of protoplasmic constriction towards the close of indirect cell division The granules of the cell plate are but large microsomes So, also, the "Zwischenkörper," the single granule of stained material which occurs at the constriction line of certain dividing cells, is only an equatorial microsome, the product of the aggregation of several microsomes that, in another cell, would spread out as the cell plate

In his studies upon the ova of Unio, Watasé has carefully followed the behavior of the centrosome during the process of caryokinesis or indirect nuclear segmentation Preceding nuclear division in this object, the centrosome divides, the two resulting particles rapidly receding from each other, surrounded by their cytoplasmic rays ("attraction spheres") until they attain a position at the poles of the nucleus Now the achromatic threads which constitute the "achromatic spindle" of cytologists, appear, and impinge upon the nucleus *from opposite sides The nucleus appears to flatten and diminish in size* as the rays of the achromatic spindle increase in length That is to say, as a consequence of the growth of the achromatic threads of the spindle proceeding from each of the polar centrosomes, the chromatin of the nucleus is gradually condensed until it finally assumes the condition of an equatorial plate of condensed chromatin (the so-called 'chromatic equatorial plate") At this stage the achromatic spindle consists of two cones with their bases resting on the chromatic equatorial plate, and their apices at the two centrosomes Following the segmentation of the equatorial chromatin, and the separation of the two resulting plates, we have the appearance of *achromatic threads between* the separated plates of chromatin These "interzonal filaments" have long been known to cytologists, and their origin has been variously described, though the phenomenon has always been a most puzzling one Here, again, Watasé ("On Caryokinesis," Biological Lectures delivered at the Marine Biological Laboratory of Wood's Holl in the summer session of 1890, pp 168-187) presents us with an explanation at once simple and plausible He suggests that the interzonal achromatic filaments are but the *prolongations of the previously opposing threads* of the achromatic spindle The fibers from the threads opposing on the equatorial chromatic plate simply continue to grow in length as the equatorial plate divides and separates These fibers dovetail with each other and push (?) apart the segmented chromatin mass This would give a double set of achromatic threads in the interzonal area, which would account for the refractory manner in which this part of a dividing nucleus resists the ordinary staining agents

Finally, as regards the *origin* of the cellular organs—the cytoplasm and caryoplasm—Watasé maintains, in his paper first quoted, that these bodies arose *independently* of each other By this assumption alone, he insists, can we explain the marked micro chemic difference existing between the cell and the nucleus The association of the nucleus and the cell was a later phenomenon in evolution, the outcome of the struggle for independent existence, and this association of the nucleus and the cell, as we observe it in organized nature to-day, is an outcome of the *symbiosis* of these originally independent organisms —A P OHLMACHER, Cleveland, Ohio

Washington Notes

HEALTH OF WASHINGTON —The report of the Health Officer for the week ended January 12 is as follows Number of deaths (still-births not included) White 63, colored 40, total 105 Death rate per 1,000 per annum, white 16 90, colored 21 89, total 18 60 Death rate per 1,000 per annum for corresponding week last year Still births, white 4, colored 3, total 7

SMALLPOX IN THE DISTRICT —There have been twenty-two cases of smallpox during the second outbreak and only two deaths from the disease Dr L Elliott, who is in charge of the smallpox hospital has made an excellent officer and has won the confidence of the profession and the public He has been considering some scientific experiments in connection with Dr J J Kinyoun, U S M H S, in vaccine lymph treatment of variola A full report will be found in Abstract of Sanitary Reports, Marine-Hospital Service, Jan 18, 1895

Medical Society of the District —At the meeting of the Society held on the 16th inst, the discussion on the paper of Dr J J Kinyoun was continued Dr W W Johnston read a very interesting paper on the subject of whooping cough He discussed its large mortality and made valuable suggestions for reduction of the death rate Dr J Ford Thompson presented three specimens of hysterectomy and gave the history of the cases

The Washington Obstetrical and Gynecological Society —The two hundred and twenty-first meeting of this Society was held on the 18th inst Dr J R Bromwell read a paper entitled the "Care of the Breasts preceding, during and following Labor" Dr Carr reported a case of oopherectomy for the cure of a case of uterine fibroid Dr Fry presented a patient operated upon for tubal abscess who also had tubercular peritonitis She had greatly improved since the operation

The Woman's Clinic —The board of directors of the Woman's Clinic held their regular monthly meeting on the 19th inst Considerable routine business was transacted

The Sewer Bond Bill —The sewer extension bond bill, as it is known, which provides for an issue of $7,500,000 in bonds for the purpose of extending the street and sewer systems of the city into the suburbs was brought up in the Senate during the week, but was laid over on objection The passage of this bill in the present Congress is almost an impossibility

The Sibley Memorial Hospital —A committee of the staff of the hospital will hold a competitive examination on the 22nd inst, to decide who is to be the resident physician

Proposed Biologic Laboratory —The Medical Society of the District, has written to the chairman of the Committee on Appropriations of the Senate and House recommending that a biologic laboratory be established in the District This has been approved by the Society but will require an appropriation

Louisville Notes

Water Supply —Louisville has never suffered as now from muddy water Unless one is supplied with a proper filtering device it is almost impossible to drink the water It is a thick emulsion of mud, there being a heavy precipitate of dark brown mud in the vessels if it is allowed to stand a few hours The city owns a large per cent of the stock of the water company, yet it seems impossible to accomplish anything looking to a solution of the problem of purifying or filtering the city's supply If the reservoirs were used alternately and the water allowed to settle in one while the other was used some relief might be obtained

Dr E A Grant has been suffering with uremia the past week He is reported much improved

Dr David W Yandell's condition is very grave, and his death is expected shortly Dr Yandell has failed rapidly in the last few months, and now has general breaking down of the system

Clinical Society —The Louisville Clinical Society met on the 15th inst, the guest of Dr P Gunterman The title of the paper read by Dr Gunterman was "Placenta Previa"

Norton Infirmary —The report of the Board of Trustees for the year just closed shows the infirmary to be in excellent condition Many improvements have been made during the year, yet the receipts were in excess of the expenditures This is a worthy institution and the report has given general satisfaction

Kentucky School of Medicine —Dr Alex V Griswold has been appointed to the position of clinical assistant to the Chair of Diseases of Children which was until recently held by Dr Henry E Tuley, with that of Clinical Medicine The work of the dispensary has so increased as to necessitate the appointment of Dr Griswold to look after the diseases of children, Dr Tuley being assistant to the Chair of Clinical Medicine

Academy of Medicine —At the next meeting of this organization the subject of hernia will be discussed, under the following subdivisions The Anatomy, by Dr J M Bodine, the Treatment by Trusses, by Dr Jas B Bullitt, the Operative Treatment by Dr Wm L Rodman

Death Report —The death report for the week ending January 18 shows a total of seventy-eight deaths, pneumonia heading the list of causes with twenty deaths

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from Jan 12, 1895, to Jan 18 1895

Col Joseph R Smith, Asst Surgeon General, will be relieved from duty as Medical Director, Dept of the East, to take effect about Feb 5, 1895, and will proceed to his home, where he is authorized to await retirement

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Jan 19, 1895

Surgeon James R Waggener, placed on waiting orders
P A Surgeon L W Curtis, detached from Naval Hospital, Chelsea, Mass, and placed on waiting orders
P A Surgeon L H Stone, ordered to the U S S "Alliance," Jan 22, 1895
Surgeon J G Ayers ordered to the U S S "Olympia"
P A Surgeon M R Pigott, ordered to the U S S "Olympia"

Marine-Hospital Changes —Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended Jan 15, 1895

Surgeon H R Carter, to assume temporary command of Cape Charles Quarantine, Jan 7, 1895 Relieved from such duty, Jan 14, 1895
P A Surgeon T B Perry, to proceed to Delaware Breakwater Quarantine Station for temporary duty, and to rejoin station (Cape Charles Quarantine) upon completion of same, Jan 14, 1895
P A Surgeon Wertenbaker, granted leave of absence for seven days, Jan 8, 1895

LETTERS RECEIVED

Ashby, T A, Baltimore, Md, Ayer, N W & Son, Philadelphia, Pa Anderson, Winslow, San Francisco, Cal

Battle & Co, St Louis, Mo, Bulson, E B Jr, Fort Wayne, Ind, Bruner Wm G, Cleveland, Ohio, Blakey, J, R, Alma Center, Wis, Beardsley, J W, Lemont, Ill, Burr, C B, Flint, Mich, Blackwell, Emily New York, N Y

Chapman, J, Big Bend Kan Clark A, Stockton, Cal, Chaddock, C G, St Louis, Mo, Collins, M B, Glasgow, Mo, Carmichael, D A, St Louis, Mo

Deahofe S P, Mineral Point, Wis, Davison, F B, Fleetville, Pa Davis, D H Clinton, Mich

Edward, J F, Atlantic City, N J, Eastman, Thos B, Indianapolis

Fisher, Henry M, Philadelphia, Pa, Fox, Philip R, Madison, Wis, Fagaines H M, Rockvale Col, Fairbank H C, Flint, Mich

Gores, F C, Cincinnati, Ohio

Hinkle, Geo W Harvard, Iowa Hudson, Walter G, New York, N Y, Hester, W W, Chicago, Ill, Hawkins, Lucy, Springfield, Mo, Hollincsworth & Mathie, St Louis, Mo, Hummel, A L (8), Philadelphia, Pa, Hofman, J A, San Francisco, Cal

Kenyon News & Postal Subscription Co, Chicago, Ill, Kerr, J M, New Texas, Pa Kales, J D Chicago, Ill

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Niles, S R, Newspaper Advertising Agency, Boston, Mass

Ohlmacher A P, Cleveland, Ohio

Pinckard, C P, Chicago, Ill, Patch Wm, Ellsworth Ill Powers, M I Iowa Falls, Iowa Patterson, M F Chicago, Ill, Papoid, The Co, New York, N Y, Parker M G Lowell, Mass

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Treat, E B New York N Y

Urban, B F Kankakee Ill

Vanden, George Gallipolis, Ohio Van Wormer, J L, West Plains, Mo

Worley S G, St Augustine, Fla., Wilson, T M, Thornton, Texas White Rock Mineral Spring Co, Waukesha, Wis

The Journal of the American Medical Association

VOL XXIV CHICAGO, FEBRUARY 2, 1895 No 5

ORIGINAL ARTICLES

THE ELEMENT OF HABIT IN GYNECIC DISEASE

Read at the Seventh Annual Meeting of the American Association of Obstetricians and Gynecologists at Toronto Canada, Sept 19 20 and 21, 1894

BY GEO I HULBERT, M D

ST LOUIS MO

IN CHARGE OF DEPARTMENT OF GYNECOLOGY AND ABDOMINAL SURGERY, WOMAN'S HOSPITAL.

> "The situation has never yet been occupied by man,
> That has not its duty, its ideal
> Yes, here in this poor miserable actual,
> Wherein thou even now standest, here, or
> Nowhere is thine ideal
> Work it out, therefore, and in the working
> Live, believe, be free"

THE ARGUMENT

1 The national endowment and conditions
2 Primitive type to standard type
3 The law of conservation of energy operates for, and necessitates the operation of, the element of habit"
4 The law of conservation of energy, operating in conjunction with original endowment, insures persistence of the "element of habit"
5 The operation of the law of continuity
6 Variation in type, acquired by change in environment operating on primitive type
7 The law of conservation and continuity necessitate the operation of the 'element of habit" in the variation in type
8 Application of the argument
9 Report of cases illustrating the variation in type and the "element of habit"
10 Atavism the law of therapeutics

In the evolution of truth accomplished by the finite mind it became necessary, from the very nature of things, that the beginning should be in the simple and often error-laden method of observing, collecting and arranging those incidents termed facts, and from these by various processes of proving and testing, arriving at the knowledge of the thing sought for

In all this there has, and always will be, the personal equation, and our experience and knowledge of this element clearly demonstrates a positive variation in type in all conditions and circumstances so universal that one is forced, if he be a seeker after truth, to become skeptical and stand askance on presentation to the results attained While it can be readily and easily established that this variation is obedient to a universal law and order, it is not always a matter easily demonstrated that to the personal equation in large degree, if not wholly, the variety in conclusion we seem to be so abundantly blessed with, and that, too, in relation to the same facts, methods and the et ceteras of our work, must we attribute much of our delay, undoing and contradictions If we will eliminate this factor, to the extent of abolishing the conscious acquired ego, and permit the unconscious acquired capacity, evolved from hard honest work for truth to prevail in us there is a law in the universe, the discovery of which was, has and will ever be the greatest of all ages, that of continuity or uniformity, that will harmonize all confusion and lead hard and close to the truth This has long since been recognized by the naturalist, physicist, mathematician, astronomer and real scientist, but the larger mass of the medical world, and many of the leaders, seem to have little conception of the great blessing at hand What a brilliant, tragically earnest demonstration the discovery of the planet Neptune was of this thought, where the independent work of four men, who reasoned in accordance with this law, resulted in at last being able to turn the lense upon the very spot in space where the planet was fixed

We do not wish to be understood as belittling in any sense the marvelous work and progress that has been made in the past in our profession, but simply call attention to a few truths which if fully and reasonably comprehended must necessarily lead to less waste of valuable time and energy, and brush away much unnecessary and seemingly incessant contradiction and confusion In the consideration of our theme we shall, therefore, endeavor to so approach and consider it that this philosophy may be manifest, and at many places we all can find common ground of agreement and thereby insure profit in what may follow at your hands

As a first evidence of this, we wish to call attention to the striking suggestiveness that words convey in the consideration of any subject, and always when rightly used point to truth We are all familiar with the words, natural, normal and standard, and I dare say many of us use them more or less interchangeably, when in truth, while allied in meaning, they are and should be specific, and when so used lead to entirely different conceptions and enforce the truths contained in no uncertain way

Natural, is derived from *natura*, meaning *born, produced*, as the adjective means pertaining to the constitution of a thing, belonging to native characteristics, essential, not assumed, put on or acquired Normal, is derived from *norma*, rule, as the adjective means according to an established course, rule or principle, conformed to a type or regular form, acquired Standard is derived from *extendere,* to spread out, extend, and is used in the sense of that which is established as a rule or model

Now in the comprehension of the natural conditions and endowments of the human organism, to which horn of the problem are we at once led? Manifestly, not to the normal or standard complete human organism, but to the born, essential characteristic of this organism, if we wish to find common ground of agreement for here all elements of confusion and error are most completely eliminated and at once do we deal with that which contains within itself, in the primitive type, every energy, function and structure that in larger and more complete expression we find in the acquired organism, the human body In short, we can, all of us, come together at the *natura* of the acquired organism, comprehend and appreciate in common the natural endowments and conditions, and from these rise into the larger, acquired, established rules and principles, and agree at last in the spread out and extended expression

It is entirely unnecessary before this body of intelligent and skilled minds to review and present what is the natural endowment and condition of the mass of protoplasm, or the germinal cell, save to say that therein do we see in its primitive type every energy, function and structure that later we find in larger and more extended expression in the normal or standard type, but for our purpose it becomes necessary to trace the mode, method and causation of this, for therein is contained that to which we wish to refer and especially emphasize, namely, the element of habit in gynecic disease

We affirm, and have elsewhere in a suggestive way, more elaborately presented, that the energy at work in the primitive type is chemical, and is a direct transmutation from the energy of heat, operating upon known forms of matter, under conditions that have passed from inorganic to organic These conditions characterized by an independence or freedom under appreciable laws, these being the law of continuity conjoined with the law of conservation of energy So that, given chemical energy under these conditions of freedom or independence, operating under these laws of continuity and conservation of energy, upon definite elements or forms of matter, the product is protoplasm This is the causation

The mode and method is evolution and its conditions, under law This implies that in the product, protoplasm, the primitive type created by the cause assigned, we must have the germ of every form of energy or activity that may subsequently be manifest in the acquired normal or standard type The law is the same as for causation, that is, continuity and conservation Hence to the mode and method of evolution and its rules and principles, previously termed conditions, at work under the primary laws of continuity and conservation, in conjunction with chemic energy and its manifest and latent potentials under the same laws,must we assign the products, function and structure The necessary product from the first, therefor, being protoplasm in primitive type, from this in conjunction with the second, we must have a still higher product, the germinal cell, and from this as the name implies, obedient to the operation of the same cause, mode and method and the persistent application of the laws of continuity and conservation must we find a product of larger and more complete expression, the differentiated cell, and from this the acquired, fully expanded and spread out expression, the human organism, with all of its contained activities, functions and structure In short, the normal or standard type

We affirm, therefor, that the natural endowment and conditions are formed and correctly appreciated only in the primitive type, that the normal and standard are an acquired extended expression and fullness of these, that causation, mode and method being under law and productive of the primitive type, so also on account of law must the normal and standard, the acquired and extended type be a product of this natural endowment and conditions and must be obedient in all activities, functions and structures to the same law and order

From this we can, without further argument, state our second proposition That from the primitive to the normal and standard type, the laws of continuity and conservation must hold true, and be ever present, and in conjunction with chemic energy, operating through evolution and its conditions, stand in the relation of causation mode and method, for every activity, function and structure that may find expression in the progression from one to the other

The law of the conservation of energy briefly stated, declares that the sum of all the energy in a system remains constant and is unaltered by any transformations arising from the action of one part of the system upon another, and can only be increased or diminished by effects produced on the system by effects from external agents, in short, a question of quantity

On account of the position taken, it is apparent that, as far as the primitive type is concerned, in the effect observed in relation to causation there is no change, it is still, in the progression to the normal and standard, chemical, and in all the transmutations as into heat sensation, assimilation, digestion, excretion or reproduction there is no change in the sum of either individual or collective energy, they are fixed and for its system unchanged There is change in structure and this alone, but in each do we find the exact reproduction of the primitive type, and this, as before implied, is due to the rule and principle of evolution, but involves no change in the law of conservation The product contains no more energy or sum and is not altered by any transmutation in it, and there are no added transmutations of energy except what were in the original, it is the exact pattern and type Evolution calls this conformation to type, but evolution is the mode and method of the product, we are dealing with the causation and the product itself It is the operation of the law of the conservation of energy, necessitating a mode and method in conformity to what preceded Parent and progeny are and must be exact and alike in all details and generalities, continue and extend the process and under law every parent to every progeny will be alike indefinitely

The word habit, comes from *habitus*, meaning state, dress Do we violate any law of logic or reason when we identify the above progression from cause to effect, by saying that herein do we find the element of habit in relation to protoplasm We think not, and state our third proposition, that the law of conservation of energy operates and necessitates the operation of the element of habit

The law of continuity declares that nothing passes from one state to another without passing through all the intermediate states Such being the case in the progression from the primitive type to the acquired normal or standard type, the law of the conservation of energy must pass to the normal and standard, and operating therein must necessitate the operation of the element of habit

The element of habit we conceive, therefor, to be that state or dress of protoplasm manifest and observed in any and every stage of the progression from the primitive to the acquired type, as related to energy, function and structure, which insures the repetition or recurrence at any given point in the progression of the attained energy, function, and structure typical of the stage selected In causation this is chemical in its varied potentials In mode and method it is the law of natural selection and, mark you, selection not simply in structure but also in energy and function

Having traced causation mode and method in the natural endowment and conditions, identified them therein, shown their presence in and from the primitive to the standard type, stated the laws of conservation and continuity, and shown their operation and necessity therefor, identified the element of habit not only in the primitive, normal and standard types, but its necessary presence in each, and at every point in the progression from one to the other, and this necessity and operation being due to the influence of the laws of continuity and conservation, and shown that the element of habit is not only found in relation to causation, mode and method but necessarily passes to the product itself, protoplasm, and is found therein and in relation to energy, function and structure, obedient to the same law and order, the element of habit must therefor be persistent

This leads to our fourth proposition, that the law of conservation of energy, operating in conjunction with the natural endowment and conditions, namely, evolution, insures persistence of the element of habit, due to the operation of the law of continuity, and not only must be found in and through the progression from the primitive to the standard type, but also in every and any variation that may occur

From the foregoing, it is evident that in the further consideration of our theme we are *confined to that* position which considers disorders or disease, be it gynecic or otherwise as a variation in type, in relation to the natural normal or standard, and that this variation is not simply that of structure but also of energy and function If we apply this to the standard organism or the so called normal we do so with a certainty of plunging into *complexities and confusions* that are unending and lead to inconsistencies and contradictions If we bear in mind the meaning of words, as natural, normal and standard we at once see that we must turn to the *natura*, the natural, in order to find common and sure footing in our conception of variation in type or disease This may seem simple and unscientific, but certainly the *natura* is the thing itself, is omniscient and omnipresent, and we challenge the objection by saying that it was only when the medical mind evolved the departments of histology, microscopic pathology and bacteriology, that light was *manifest and our* knowledge of real utility

Furthermore, we know that the only possible means that are capable of accomplishing a variation in type is that law of evolution termed "change in environment" If this is to be applied, either in theory or practice, to the normal and standard type, we are thrown back *into the mysticism* and empiricism of the "dark ages" of medicine and are compelled to comprehend cause and effect by symptoms, these may be real or counterfeit Keeping in mind, therefor, that we are dealing with energy, function and structure as expressed in the primitive type, we state our fifth proposition, that disease is a variation in type acquired by change in environment operating on the primitive type, and that this variation and effect of change in environment is not simply in and on structure, but also in and on energy and function

This leads to another concept, viz, that an absence of change in environment insures a persistence of the *natura*, or the acquired type, and necessitates a persistence in progression of the type acquired through the stages of evolution to which the organism is or has become adjusted We perceive, therefore, that the element of habit is and does become a potent factor, and that it is not only to be found in the *natura* in relation to the primitive type, but also in the acquired, be it normal or standard, and in relation to those conditions termed health or disease

In the application of the foregoing we must keep in mind that it is in relation to energy and function, as well as structure, that our concept is to be utilized This may seem an unnecessary refinement in diagnosis, yet without it we gain nothing in reconciliation of apparent contradictions and explanations of the enigmas of our experiences

Who of us is not familiar with those general divisions of disease called functional and organic, and does not feel in the attempt to explain and point out differences that only a part of the phenomena are accounted for? Who of us has not witnessed those gradual modifications and alterations under the effect of some external or foreign agent in which structure or function may or may not be involved, and yet all the symptoms of the most intense organic change be manifest, and are sought and not found? and who of us has not done careful and effective work in removing evident causes for evident effects, and been nonplussed at the persistence of the phenomena we believed would disappear?

We believe *the difficulty lies in the fact that* we have been contemplating structure, that we have not comprehended the "trinity" of the human organism, energy, function and structure, and have not recognized the possibilities of a variation in type within the limits of the freedom or independence possessed by each in its relation to the others, as well *as without Take, for instance, the first,* energy This, we affirm, is chemical Witness the lithemic condition, what mild or protean phenomena may be evolved from this chemic variation, and how long it may continue with only a variation in function Witness the drugging (morphin, chloral, cocain, alcohol) the human organism has sustained, and how long continued this may be and structure remain intact For function, witness the over exertion, excessive changes in environment, abuses and excesses in all directions of function, and energy and structure remain typical and competent For structure not so much can be allowed, but observe the hypertrophies, hyperplasias and atrophies, and not quantity but type and competency remain And what part or locality in the human organism furnishes greater possibilities, or is richer in observed phenomena in any of these, than the gynecic?

Here better than elsewhere in the primitive, normal or standard type is observed continuity, conservation and evolution from the simple primitive undifferentiated, up to the completely expanded expression, working out the progression with a marvelous capacity and reserve, in all its adjustments, fulfilling law and order in its widest and most exacting demands, to the complex differentiated expression of the trinity, abiding for a season, thereby insuring persistency in law and order and type, thence back again, obedient through all to continuity, conservation and evolution A poem in energy, a symphony in function, the culmination of a cosmos in structure And yet there are men in the highways and byways in this day of light and possible liberty from error, whose concept of gynecology is a speculum, a probe, absorbent cotton and iodin, a pessary, a knife, electricity, drugs, an idea or authority

Further, in order that we may avoid misconception and confusion in considering the argument, the element of habit, from what has preceded is defined as the adjustment of any one or all the elements of the trinity—energy, function or structure, to the circumstances or conditions operating or quiescent at any given time It is not the causation, mode or method, but is involved therein, is not the law of continuity, conservation or evolution, but a sequence thereof, being an adjustment in and due to the above, at any given time in circumstance or condition of protoplasm, either as primitive, normal or standard type, it remains in our application to show how this is manifest and accomplished In this we do not consider it necessary to review what you all have observed and no doubt appreciate in that condition called health, and are acquainted with the variations in type within the limits of the condition, health, but to transfer this whole plan and argument into the domain of disease in every detail may not at first seem correct, yet this is precisely what we must do if we accept law and order in the universe, conceive disease to be a variation in type and believe continuity, conservation and evolution as laws in relation to causation mode and method necessarily passing to energy, function and structure There must be analogy (we use the word with its specific meaning) or contradiction If analogy, then truth, if contradiction, then error

We have said that disease is variation in type, this implies change in environment Look at bacteriology, here we have presented organisms analogous in all respects to the human organism as far as being a part of the same cosmos, with a natural endowment, obedient in causation, mode and method, energy, function and structure to the same general laws in which the culmination in expression is to a *natura* molded for and adjusted to the same objective point—self, but whose mold and adjustment is a variation in type in its trinity from that of the human organism These, coming into relation with the *natura* of the human organism (and if we had continued observing the acquired normal standard type they would be still unknown), made possible by the analogy, there is accomplished a change in environment to the *natura* of the human organism, and this change in environment is not simply to the structure but to energy and function, and as a result of this change there is and must be a variation in type in the *natura* of the affected organism

This variation may be confined to one, two or all of the elements of the trinity, when energy is simply modified there may or or may not be any modification in function or structure It may be transient or sustained, and may not pass beyond the confines of the capacity or reserve which needs nothing else to dispose of or tolerate the variation In this variation we place the benign and some possibly pathogenic organisms, and find by this that our analogy carries us direct from health to disease Passing from the pathogenic organisms that may at some time accomplish only variation in type in energy, to those that always do, and that in a degree beyond the freedom for individual variation in type, we fully enter the domain of disease and find the continuity of the progression unbroken, and the conservation in energy absolute Accomplish the change in environment as you may, either by direct contact of organisms, agents operating upon the acquired type through the mental, nervous, muscular, excretive, secretive, digestive, assimilative or reproductive tracts, or by agents chemical or physical, the modification is received and spent on and at the *natura*, and the effects accomplished may or may not be transient or sustained and the variation in type in energy can be likewise traced into and from the condition termed health into the condition termed disease, and not a break found in continuity and conservation, and not a single rule or principle of evolution violated So, also, study function and structure, but time forbids We think it correct, therefore, to say that change in environment produces variation in type We see that disease is due to change in environment and that it invariably affects the *natura* of the human organism either in energy, function or structure or in all, and consequently is variation in type

It is manifest, therefore, if we apply this variation to structure we have only organic disease comprehensible with always function and energy involved This we know is not true if applied to the acquired normal or standard type, is true if applied to the *natura* or primitive type, but only in relation to each individual cell affected, for we know that structure may be seriously modified in the first, energy and function remaining typical and competent Apply this to function, and we comprehend functional disease with or without variation in energy or structure If applied in relation to the acquired type, we have no means of differentiating when energy and structure vary, and have no conception of the possibility of the disorder passing from the domain of the functional to the organic, applied to the primitive type this is readily appreciated Apply the variation to energy at work in the *natura* and conceiving all the various activities of the acquired type as being transmutations from this, and much of the now incomprehensible functional domain becomes clear, immunities from and predispositions to disease are explained, acquired modifications protecting from or predisposing to variations once experienced are tangible, soil, diathesis, resistance are appreciable, the mysticism and ignorance involved in the neuroses is largely brushed away, slight ailments will obey attention, hysteria, neurasthenia, hypochondriasis, many forms of melancholia, and a host of disorders that the careless medical mind attributes to the "fool patient" will become realities, the possibility of a variation from the condition of health to that of disease, and that, too, without any appreciable cause from without will become manifest, and while we at this time can not give the variation in formulas and may not be able in all cases to correct the variation, we can, until this field has been better explored, in hearty accord with our German co-laborers, make a more correct diagnosis, and damn the therapeutics

Appreciating disease as a variation in type, we present the last point in our argument, and that is, that the possibility always exists in disease as well as in health for the variation in type to become fixed or adjusted in its relation to the *natura* and its trinity to such a degree that it is more or less persistent This necessarily implies a persistence if the change in environment is more or less perfect, and so long as this more or less perfect persistence of the change is operative there can be only more or less operation of another principle of evolution, that of atavism or reversion to the original type, and consequently the disorder must be more or less persistent and appreciable

The conclusion we reach from this is, that habit being the state or dress or adjustment attained in the *natura*, either in one, two or all of the elements of the trinity, it necessarily must pass to and be present in disease and be one of the elements in pathogenesis, pathology and pathisotherapie

In illustration, and for the practical part of our paper we wish to present the following, the first of which is variation in type in relation to energy

Miss A , aged 25, school teacher, five feet four inches, 115 pounds, menstruated at 13, always more or less trouble and for last six years sufferings severe, nostalgia more or less continuously, malaise and ready fatigue persistent, constipation, cephalalgia of top and back of head, vertigo at times, gastric disturbances slight but explosive at times during menses, heavily coated tongue, skin flabby but not anemic in color, uterus in complete retroversion, density greatly modified so much so that flexion can readily be produced in any direction, no evidence of any structural changes save slight enlargement of left ovary and moderate fixation of right, easily released, no history of any inflammatory attack at any time and no discharge save at menses, this is normal and good color The dislocation is marked, uterus at first examination was found impacted between the utero sacral ligaments, which was readily relieved, the patient declining operation a pessary was introduced, well fitted, gave no discomfort and apparently relieved the relaxation manifest at cervix This patient has been under observation now for over a year and only during the last four months has there been any evidence of improvement in the relaxation and persistent slopping of the uterine body over upper arm of pessary Every means possible was utilized, all symptoms met tonics and the et ceteras of the gynecologic armamentarium were exhausted and no appreciable benefits attained

The environment was pernicious, monotonous, effective, and the variation in type was likewise persistent It was not until we comprehended that this was in energy that we found the key to the situation, structure was certainly unchanged, function was to some extent, but when considered in relation to the *natura* it was not, the type was there but the *power* for active function through structure was not there Considering, therefore, that the variation was in energy we could find nothing to fit the case unless it was that the chemic modification was that of lithemia Acting upon this, and persisting for three months we were rewarded by the first and only evidence of relief, that of general systemic well-being and decided improvement in the relaxation of the pelvic tissues, to the extent at this date of a more normal density of uterine tissue and the pessary now sustaining the uterus in position But all along the reversion to the original type there was and is now a more or less constant tendency to return to the full expression of the variation This, we consider, the element of habit The adjustment of the *natura* to the variation had been so long in operation, so fixed, that in spite of the activities at work, by presentation of changes in environment within the lines of health toward this end, that it is continuously showing itself The law of natural selection has passed from the limits of health to the domain of disease and is at work in the new adjustment, and we expect to have to contend with this element of habit until such time as the environment for health shall have been in operation so long and forcibly that the *natura* has been brought back entirely to the adjustment of the original type, and the element of habit for disease has become the element of habit for health

Variation in type in relation to function in pure and simple expression is not frequent, but is usually met after variation in energy and structure has complicated the process, standing in relation of cause to the former and sequence to the latter

The following case illustrates with a considerable degree of purity the type

Miss A age 27, single, brunette, five feet four inches, weight 115 pounds Gives clean bill of health up to 21 years of age, at which time, following severe mental and physical strain, began to have leucorrhea, backaches gastric reflexes, cephalalgia, pains the day before and first day of flow, gradually changing to three days before and the several days of the period Save at the menses and the leucorrhea feels perfectly well, capable for her duties and enjoyments and would to the casual observer be considered a healthy woman Examination of the gynesia revealed nothing tangible or without the domain of health in relation to structure or energy But at the menstrual epoch the picture was radically changed There was hyperesthesia, decided enlargement of uterus and ovaries, mobility diminished and all the evidences of general pelvic stasis and hyperemia, in short, the type was congestive, here with energy typical and competent, structure unchanged the action or function passed far beyond the type and we had all the phenomena of the first stage of an inflammation

The variation in type had reached the point where energy was beginning to yield and this accomplished, structure would not be long in joining in the progression Those who have had this type to deal with know full well the fixed character of the variation, how the tendency to recurrence is frequently exhibited and how slight changes in environment send the subject back again and again Here do we see the element of habit

As illustrating variation in type as related to structure, we point to the traumatisms, and lesions accomplished after long continued operation of variations in type of energy or function Particularly is it observed in that class who have gone through long experiences of organic disturbance, in which evolution in structure has been accomplished, which in many instances remain more or less permanent Even in those in which reversion to the original type has been most perfectly accomplished, do we see manifest repeated and persistently recurring attacks in which the type is again and again more or less fully expressed, and that too in the absence of the specific agent that at first produced the variation This we consider the element of habit responding to the variation in structure The new state, dress or adjustment is repeatedly showing itself on account of the persistent change in environment maintained by the variation in structure We wish it understood that in this we do not lose sight of the active specific agents that in beginnings and for periods afterward, and possibly to the end, stand in the relation of cause to effect, but these die out, are disposed of and leave sequences These sequences are the variations in type in structure which may or may not pass away that we note, and these in this type are the real factors that keep in operation the new adjustment and the element of habit

For instance, look to the hypertrophies, atrophies, hyperplasias, adventitious and heterogeneous changes in structure, and study the element of habit therein Who has not observed the aches and pains, the functional activities, the recurrences, the lapses from apparent states of health to disorder after more or less continued experiences of disorder, and after the removal of apparent causes and conditions for the same, the radical therapeutics of the day and in most instances the gradual and final reversion to the original state and condition of health? How many sensations, aches and pains we meet, the persistence of the menstrual flow and molimen, when we know beyond doubt that the agents for these activities have been absolutely done away with? How often we see the gynesia after prolonged diseases become restored to conditions that the skilled sense of touch knows are within the domain of the normal or standard type, when, with some reasonably sufficient cause the swing back into the domain of the previous experience is so sudden and aggravated that the observer is non-plussed? Who is not familiar with the phenomena of heredity and the climacteric? These are all kindred and can not be interpreted or comprehended save but by the element of habit, and in the progression of disease during the active stages, the host of experiences and evidences that are readily reconcilable and can be intelligently explained are many, and correctly appreciated lead to safe therapeutics Appreciating the element of habit in health and its possibility and processes in gynecic disease, and comprehending the entity to be a variation in type either in relation to energy, function or structure, one, two or all, and these as related to the *natura* of the organism affected, obedient to continuity and conservation, we are led in the solution of the problems presented, to the rules and principles of *atavism* or reversion to the original type

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SOME MEDICO-LEGAL FEATURES OF THE SCHNEIDER CASE

Read before the Medical Society of the District of Columbia Oct 10, 1894

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WASHINGTON, D C

With the softening influence of time, which modifies all things, our minds are prone to assume the blank state so necessary for calmness of thought and dispassionate consideration that should always be brought to bear on all questions of forensic medicine It is in this frame of mind, I trust, that we now approach the consideration of a case that was attended by much public excitement

On Jan 28, 1893, I visited the district jail, in company with Dr Godding, of Washington, to examine into the mental condition of a young man under sentence of death for the murder of his wife Certain features of this celebrated case, but more especially the lunacy inquiry, came within the unfortunate category of those prejudged by public sentiment, regardless of calm consideration of the attendant facts But the question of guilt or innocence being no concern of mine, judgment may be suspended on this point Whatever a culprit may be from the special pleader's point of view, to the physician a patient is only a patient whether he be saint or sinner, and the judicial aspect of such cases in no way concerns us, unless the medical facts relate to the law or tend to promote the ends of justice

As far as I could ascertain the prisoner's antecedents he had led an irregular eccentric life, was addicted to the abuse of alcohol and tobacco, and was unhappy in his domestic relations A near blood relative had died of spinal disease, another was hemiplegic, another had nystagmus, and the father was a senile dement, being insane before and at the time his son was begotten The prisoner had a poor common school education and his family were Lutherans

From the jail attendants and the physician it was learned that the prisoner had undergone a marked change in conduct, from being neat in his personal appearance he had become slovenly and filthy, his manner of talking, from being quick and sprightly had become slow and hesitating, when addressed he would be apparently forgetful and have difficulty in concentrating his mind upon matters as to which he was interrogated, and before answering would repeat part of the question in a stupid way after the manner of echolalia He refused food for fear of poisoning, suffered from prolonged insomnia, talked incoherently, especially about a wonderful electrical machine he had invented, frequently yelled in the night that persons were entering his cell, throwing acid upon him, and making attempts on his life

I found on entering the cell a man of unkempt appearance with pallid complexion, long hair and beard and a morbidly suspicious manner First inspection showed slender trunk and limbs and thin cigarette stained fingers He constantly and aimlessly picked and scratched his hands and wrists after the manner of many patients one sees in asylums Palpation of the head gave no result, nor was there any marked peculiarity in its shape beyond a slight plagio prosopia of the right side There was a slight ptosis of the right eyelid, irregularity of the lower teeth, a narrow palate arch, and an extensive ranula The superficial veins appeared healthy There was a brown scar on the left of the glans penis A quantity of urine passed in our presence showed a large excess of phosphates on analysis

Various tests for the motility, sensibility, reflexes and special senses were applied Exaggeration of the patellar tendon reflexes was present, and the prisoner either could not or would not distinguish colors The circulation and respiration were weak The pulse was 90 and irregular the temperature under the tongue 99 5 Owing to the prisoner's stuporous condition and his morbid suspicion, it was a more difficult task to ascertain the limit of his ideas, imagination, will, and moral and affective sentiments He complained of heat and pain in the back of his head and arms, of excessive itching of the skin, of inability to sleep because of the faces of dim green color on the walls, of whisperings and voices, and of the annoyance caused by persons throwing acid on him and having designs on his life He also said that attempts were made to poison his food, he talked of the attempt to steal an electric invention, and accused his brother and mother of being inimical to him When asked if there was anything he wanted he asked for medicine to make him sleep Numerous questions put with a view to leading up to the prisoner's mental weak point failed to elicit much beyond the fact that his memory was apparently weakened, that he was suffering from phrenasthenia, and that he lacked the knowledge and shrewdness to dissimulate the systematized and fixed delusions which were ground out with hand organ regularity at each visit At one of these visits the prisoner showed not the slightest sign of emotion on the arrival of his mother, nor was there on several occasions any change in the beat or frequency of his pulse when suddenly asked about killing two people one of whom was his wife, and that he was soon to be executed therefor

With Dr Godding and Dr Brush I did not think it possible for an ordinary ignorant man, even with special training in insanity, to feign successfully the symptoms observed Malingering tests failed to lead the prisoner into any gross error, even after prolonged and varied conditions of examination

In view of the foregoing facts and my wide experience with frauds and malingerers among thousands of soldiers, sailors, pensioners, and others, I felt satisfied that the prisoner bore the characters, physical and psycho-physical, of degeneration, of aberration, of constitutional abnormality sufficient for recognition, and I signified my willingness to go into court and testify as to the existence of paranoia Besides, the symptoms observed were similar to the clinical picture of that affection as given by more than fifty authors whom I had previously consulted

The inquiry accordingly came off before three judges, and on this occasion I had the honor to differ with my friend, Dr Dana of New York, who was by far the most intelligent, conscientious and well informed of the experts employed by the adverse party

The inquisitorial procedure conducted by the three judges was a long one, some twenty-nine witnesses being produced on either side, and the testimony was voluminous To review it here at length would manifestly be out of place, but the legal procedure adopted and the manner of getting medical evidence are open to damaging criticism, and do not strike the dispassionate observer as "being the wisest method of obtaining light upon the alleged insanity of the defendant.'

At the outset of the inquiry, legal opposition suggestive of unfairness, was shown in the motion to exclude from the court the expert medical witnesses for the defense. After deliberation on the part of the judges, who were presumably without predilection and uninfluenced by the sentiment of the hour, this motion did not prevail. While the experts for the prosecution were given every opportunity and did cross examine the experts for the defense, no such privilege of impeaching the skill and testing competency was allowed the defense, who submitted in writing eighty four proposed questions which it was thought related to the facts in issue and tended to test the accuracy, veracity and credibility of a document alleged to give an enlightened report of the defendant's condition. Touching these questions, Chief Justice Bingham remarked, among his reasons for not permitting them to be asked: "It would seem to us that each and every one of them is in the nature of a critical, technical and rigorous cross examination."

Not to comment at length upon the evidence adduced by the various witnesses, it was satisfactorily shown to many persons, among them members of the jury who tried the case in advance of the lunacy proceedings, that the weight of testimony bearing upon the prisoner's insanity was greatly on the side of the witnesses produced to prove the theory of his counsel, namely, "that the shock of the sentence of death, coming after the prolonged strain of the imprisonment for four months and the strain of the trial, acting upon a mind *predisposed to disease*, operated to dethrone his reason and render him insane, so that he is now unable to appreciate his *present situation* as a person condemned to death." Even the witnesses for the prosecution clearly established the existence of heredity, which is one of the only two factors that enter into the causation of all cases of insanity. In fact, the neurotic antecedents were so well shown as to remove any doubts as to the defendant's mental condition had there been such, and on being recalled, I testified substantially to this at the conclusion of the hearing of the *inexpert testimony*. So well indeed, do the best modern authorities recognize the complementary relations *to each other of* heredity and stress in the causation of insanity that it is now spoken of in *mathematical* terms as a function of two variables, and one may as well deny the fact that twice two make four as to doubt the two fold causes of insanity. Notwithstanding this, and the further fact that a considerable part of the testimony for the prisoner was addressed to the mental condition of his father and to the erratic conduct and abnormal behavior in *early youth of* the son, Judge Hagner, in delivering the opinion of the court, pointedly disregarded these facts and characterized "these statements as comparatively unimportant."

In the course of the inquiry many questions, the purpose of which seemed irrelevant, were put by the prosecution in regard to the use of tobacco, and a sphygmographic tracing of the prisoner's pulse was introduced. The question of consumption of tobacco may be dismissed as immaterial and insignificant, since it was proved that the prisoner never used more than a quarter of a pound a week, and when the supply was entirely cut off he improved in appearance and in the readiness with which he replied to questions. The inference to be drawn from such improvement is manifestly against the theory of feigning. A simulator would attempt to retain as far as possible the state which he had manifested during the medical examination and during his presence in court. While the nervous system of many persons is seriously affected by tobacco, many old and inveterate users have never been affected. A letter in my possession from a gentleman of 84 years, said to be one of the most inveterate users of the weed to be found in the whole State of Virginia, shows an absence *of tremor and a clearness that would do credit* to a school boy. While the examination was in progress I produced a *sphygmographic tracing*, and on asking one of the physicians employed to assist the court, whether the tracing in question was that of a man or some lower order of animal it elicited the reply: "I don't know." It was further asked: "Assuming the tracing to be that of a man's pulse, does he or does he not smoke or use tobacco?" To this the same reply was made, when I stated that the tracing was one of my own pulse and that I did not use tobacco. In defense it was testified that in the diagnosis of insanity the sphygmograph is of no absolute significance, that *it is a mere scientific toy*, and that any results obtainable from it may be ranked among the probabilities of science. Equally worthless was the testimony regarding the drawings, tracings, and the civil service examination papers introduced to show the work done and the employment of the defendant. As documentary evidence they showed a lower order of merit than is often found among idiots and insane, many of whom do creditable work as artists.

The inference to be drawn from civil service examination is, to say the least, extremely problematical. An instance has come to my knowledge in Washington of a contest in which among the applicants examined were a recent graduate of the United States Naval Academy and a person just from a lunatic asylum. On awarding the results of the examination the lunatic was recommended for the prize. As is usual in such cases, the presentation of the medical evidence proved unsatisfactory, more from the manner in which it was obtained than from the inherent difficulty of the case. Each counsel striving to *make the* testimony aid his own side thereby forcibly impressed upon it a blurred and distorted character, and each took just what suited his purpose. Concerning the report of the "three physicians of known eminence" employed to assist the court in the examination, a prominent member of the Washington bar, who was a disinterested spectator, on hearing it read remarked: "That document is more like a special pleader's brief than the expression of expert opinion." Since the makers of the report were presumably honest, though mistaken, I will not say that I share this sentiment as to its unilateral character, although some points of the report call for comment and criticism.

Among many irrelevant and immaterial statements, which could not be construed as evidence *of either* sound or unsound mind, independently of other matters connected with this case, the medical assessors, delegated by the judiciary, described quite truthfully the defendant's condition when they say that: "*During our examinations* he manifested a stuporous apathetic condition and a vacuity of mind such as occurs in certain long standing insanities under other conditions" He "avoided the eye of the observer," was "apparently oblivious to the presence of any one," "his general attitude one of suspicion," "his irrelevant and illogical (inconsistent) manner," his "stupid behavior and far-away look" We are also told that they were not able to surprise the defendant in any way out of the constant expression of his delusive ideas, for the report indicates that on recovering from the effects of ether he "at once took up his complaint of alleged persecution and delusions," "said he was being starved and called upon his mother to bring his food" The probative force of such facts go to show that the defendant could not keep up his feigning in such circumstances, but it requires greater acumen, on the part of any medical man who has ever seen a patient anesthetized, to see the significance or relevancy of the statements that "when he was given nitrous oxid gas and ether he exerted an extreme amount of muscular vigor," that he "took ether evincing much cunning in holding his breath and suddenly turning his head" Further occasion may be taken to mention in terms of strongest condemnation this method of obtaining knowledge The best authorities are against using alcohol, ether or any anesthetic or intoxicating drug for the purpose of obtaining an avowal from a supposed simulator The expert has never the right, in order to insure his diagnosis, to impose suffering on any individual intrusted to his care or to put him in danger By doing so he assumes the rôle of judge and inquisitor, instead of confining himself to his proper function The well-equipped expert has enough means at his disposal to obtain exact knowledge without recourse to barbaric and dangerous proceedings which morality and contemporary science unite in condemning with the same severity as the conduct of a judge who would re-introduce the ancient procedures of the rack and thumb screw

If the use of anesthesia was of any probative value in this case, the proof furnished thereby was rather in favor of the defendant A short time after the first test of this kind, I found him smelling strongly of ether, he had an excoriation on the end of his nose, and he showed a degree of exhilaration and rationality that I had not seen before Like the improvement noted after withdrawing the prisoner's supply of tobacco, it is difficult to reconcile this fact with the theory of feigning

We are further told in the report that the "fixed systematized delusions, which have been prominent here, are evolved out of preceding stages of insanity requiring many months and years for development," and further, "we do not believe that from the manifestations testified to, a diagnosis of that form of insanity known as paranoia of Krafft-Ebing and his followers is possible" This statement utterly ignores all the prisoner's neurotic antecedents, the erratic conduct, abnormal behavior, and even insane conduct, which were testified to by numerous witnesses, among them several for the prosecution To use the language of the court 'With one accord all these witnesses agree that from his earliest youth, preeminent over all his other vices was his addiction to falsehood, that his whole talk was a gasconade of impossible exploits and ridiculous lies"

Dr Beatty testifies to the belief that the prisoner was crazy when he first saw him in jail, while Dr Walsh, who had known him a long time, testified as to his general reputation for "being off and peculiar as a youth," and expressed belief in his mental unsoundness

The family clergyman spoke of him as a person under "a long standing mental cloud," another witness as a "dime novel hero," another, of his impulsive and reckless actions and want of reflection, another, of his being different from other young men, an untutored child of nature, and of his moral depravity One witness called him insane, a fool, an idiot and an arrant coward, another spoke of "grandeur and falseness as the general character of his talk," while the jail matron testified to his extravagant statements as to the horses he owned, and to his electric invention, and excited manner

Witness Paine said that the prisoner talked of his inventions and machine the first day in jail and frequently sat up all night Witness Woodward, that the delusion as to the patent was noticed by him "along in the fall and last three months," and that a gradual change has come over the prisoner, who was torpid and sleepless Russ, a prison attendant, that he noticed oddity in the prisoner before his wife died, also a change after conviction, and the persistency of the alleged insane manifestations Peacock, that in July he talked quickly, that lately he talked slowly, etc all of which manifestations show the forerunners of the prisoner's mental condition and make it quite possible to diagnosticate paranoia Aside from the gradual development of the manifestations testified to, the medical advisers of the court totally ignored or were ignorant of the distinction of the best authorities between acute primary and chronic secondary paranoia, and they inadvertently spoke of this form of insanity as that of "Krafft-Ebing and his followers," when in reality some twenty-five authors before his time have written of this form of mental degeneration as far back as Vogel in 1764 Moreover, Westphal described the *acute* form as characterized by the sudden explosion of hallucinations, especially of hearing In this case delusive transformations of hearing were one of the features, but as we cannot, except in an ejective way, get into another person's brain to see his mind-stuff and hear what he does, it is scarcely possible to testify in a court with any degree of accuracy as to the existence or non existence of such hallucinations However, it is well known to persons skilled in penal matters that among convicts becoming insane, hallucinations of hearing and delirium of persecution are common forms of insane manifestation

Another point in this case is that the emotional condition of the patient appears to have been ignored by the experts for the prosecution It is contrary to all experience that a sane man, fully cognizant of his surroundings and of all that is going on about him, and who is feigning insanity, can control his emotional nature and prevent an increase of pulse under circumstances that would cause increase in any sane person On this point the report says "As to the importance attached to the condition of the pulse and the behavior of the individual when startling evidence is introduced in his presence, or when he was reminded of his position, we would say that we attach very little weight to variations in pulse as a test for the examination of feigned insanity, and in making this statement we believe that we are in accord with all modern authorities "

In the first place this statement is inconsistent with the introduction into the court of a sphygmographic tracing to show the condition of the prisoner's pulse, then the pulsatile phenomena of different regions of the body have been known to furnish infallible indications since the time of Galen, and in the earlier days of American medicine, a resort to the state of the circulation was regarded so much of a crucial experiment in determining the proposition whether a man be or be not laboring under mental alienation, that of two men condemned to death in 1794, one of them alleged to be feigning was declared insane after medical inspection, the pulse test placing insanity beyond the possibility of a doubt on comparing the pulse of the insane victim with that of his sane comrade On the strength of this representation by the medical commission the prisoner was respited and subsequently pardoned by General Washington [1]

As to the third assertion of the court's advisers, that of their being in accord with all modern authorities, such is not the fact On the contrary, after examining several hundred of the more modern authorities bearing on this subject, I find that scarcely any fact of modern clinical research is better established than the demonstrable changes in the pulse following transient changes in the central nervous system, such as that contributed by the play of mental or emotional activity, and that this motility of the state of muscular contraction of the arteries is so constant in persons of vigorous health that its absence is considered a sign of diagnostic value [2]

The number of physical and psychical influences that can be clinically and experimentally shown to cause variation of the pulse could be mentioned at great length Who has not experienced increased pulsation of his heart on meeting some familiar friend? Every practitioner knows that his presence hastens the pulse of his patients, especially that of women, children and nervous persons Brain work, calculation, music and sensorial excitations generally accelerate the pulse, while different emotions give to it a vivacity sometimes very remarkable After an excess of anger the pulse has been noticed to go up to 108 According to some authorities, pain makes it go up to 86 and 100 pulsations in a minute A series of observations on medical students has obtained 120, 124, 128, 130, 134 beats a few minutes before examination The influence of the generative function over the circulation, recognized by Galen, when he discovered by the pulse the malady of Justa, wife of the Consul Boece, and who had a passion for Pylades, is just as potent to-day as it was a thousand years ago

That the pulse varies in mental alienation according to the kind of insanity is therefore a well-established fact, and how three intelligent men could certify to a prisoner's being cognizant of all that was going on and listening to testimony the most damaging to his case without a momentary effect on his pulse is beyond all comprehension

Other minor and irrelevant points touched upon by these "three physicians of known eminence" might be discussed at great length, but it suffices to notice that they report "no evidences of any external structural alteration," and "nothing whatever abnormal was noted physically " Although they mention having found "the head small and an elevated palatal arch such as is frequently found in ordinary neurotic individuals and certain habitual criminals and the tongue pointed to the left side," yet we are not shown how such facts bear upon the correlation between anatomic structure and crime In making this "exhaustive" examination bearing upon the organicity of crime, its anatomic nature, and degenerative source, why did they not find, or if they did why fail to report, a metopic cranium, facial asymmetry, ptosis of the right eyelid, an extensive ranula, irregularity of the inferior dental arch, dullness over the base of the right lung, and a scar on the penis?

In their general conclusions the report says "There seem to have been no serious physical changes whatever in his condition," "an absence of physical deterioration," "no corresponding appearance of physical deterioration of any kind "

Let us see how the *post mortem* corroborates the pathologic notions of the "three physicians of known eminence "

Shortly after the execution, the necropsy was conducted in Baltimore by a well-known Washington pathologist and myself We found the usual cadaveric rigidity in a poorly developed body somewhat emaciated There was no evidence of seminal emission that sometimes occurs after hanging But little hemorrhage followed the incision The brain on removal was dryer than usual, the pia was sticky, and there were minute patches of opacity on the left side The veins were moderately full The dura was not abnormally adherent The right side showed the same stickiness with the minute patches The left vertebral artery was double the size of the right, and both posterior communicating arteries were larger than usual There was no sign of disease of the vessels, although the base of the brain was slightly soft The right motor oculi nerve was narrower than its fellow The spinal substance was quite soft, possibly a *post mortem* result The fluid in the ventricles was slightly tinged with blood, but the ventricles were apparently normal There was some hardening about the membrane not adherent to the cortex with osteophytes in the dura

The normal quantity of fluid was found in the thoracic cavity The lungs, slightly hypostatic and emphysematous, showed numerous pleuritic scars and adhesions with a tubercular deposit in the upper part of the right, but there was no pulmonary apoplexy such as is common to asphyxia

In the pericardium was an abnormal quantity of fluid The cardiac cavities were moderately filled with blood and the valves appeared normal, except the tricuspid, which was increased in size to the extent of readily admitting the tips of the four fingers The left ventricle was thinner than usual and the right heart was subnormal The spleen was soft, with prominent Malpighian bodies and a smooth capsule The kidneys contained more blood than usual The capsules, not readily removed, were more adherent than normal The cortex was normal in width and thickness Urate deposits the size of a large pea were found in the apices of the pyramids In the bladder was found a half ounce of turbid urine, but the walls showed no evidence of disease On the left side of the glans penis was a brownish scar The intestines contained little more than gas The mesenteric glands were extensively diseased, being enlarged, gray and softened, probably from a deposit of tubercle The liver was normal

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[1] American Journal Medical Science Vol viii 1844

[2] Arch für Anat und Phys 1883 Superabund pp 17-19

Microscopic examination of the brain gave but negative results The same may, however, be said of the brains of many patients who have died of general paresis, while many of the alleged pathologic findings of histologists have been equally observed in the brain of a calf

During the progress of this lunacy inquiry, much was heard from various sources declaring the case to be an exceptional one The public, who by the way were excluded from the court, were informed "This is the first case on record that a man's mental condition has been inquired into because it was claimed that he became insane after the sentence of death had been pronounced upon him," while Judge Hagner, who delivered the opinion of the court, in speaking of the weight to be given to the three experts who testified on behalf of the prisoner, says "They all admit the case presented here is exceptional" Both assertions are absolutely contrary to fact and this is easily proved It is a matter of record that in 1794 two men were sentenced to be hanged for treason, and one of them it was thought feigned insanity, whereupon a commission consisting of Dr Shippen, Dr Griffin and Dr Earle, appointed by General Washington to inquire into the man's mental condition, reported him to be insane The condemned man was respited and after the popular clamor for his death had subsided was pardoned A notable feature of the case was the pulse test, which it was said placed the condition beyond the possibility of a doubt, on comparing the pulse of the insane victim with that of his sane comrade

Another case almost the counterpart of Schneider's occurred a year previously in France A man having killed two people, his condition became such as to call for a medico-legal report on his mental state The inquiry showed that the prisoner's derangement was in no way connected with the commission of his crime He was subject to alterations of memory, which would be lost and recovered some hours afterward His mind was most of the time in a profound torpor He had fixed ideas, delirium of poisoning, and refused food Coupled with these symptoms was the circumstance of neurotic antecedents, which warranted the diagnosis of that form of delusional insanity known as paranoia Instead of the sentence of death being carried out, the prisoner was sent to an asylum [3]

Newspapers are not supposed to be scientifically accurate, and lawyers may be pardoned for distorting medical knowledge with which they are imperfectly acquainted, but when a learned judge from the bench delivers an opinion with the sanctity attaching to a judicial document abounding in *scientific* quotations from the Bible and the classics, and yet misstates a fact in forming his conclusion, what is the proper remedy?

As one of the experts who testified for the prisoner, I regret to say that Judge Hagner was utterly mistaken I absolutely deny that I have ever admitted that the case herewith presented is "an exceptional one and out of the range of ordinary experience," and I challenge any one to read the typewritten copy of my testimony on the occasion named and find even the slightest intimation of the case being "altogether exceptional"

To conclude this unhappy affair it may be asked, Was the medical examination of the court's advisers "exhaustive, thorough and complete," as they claim in their report and supplemental report? Did they fully weigh all the circumstances of the case? Was the method of procedure the best suited to promote an inquiry not influenced by predilection or sentiment of the hour? And was or was not the final result judicial murder? The answer to these questions I leave to the calm and disinterested intelligence of thinking persons, many of whom may see in this case a striking instance of the bungling application of medical knowledge to legal purposes

INTESTINAL INDIGESTION

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To treat of intestinal indigestion separately from gastric indigestion would seem almost impossible, since it can not well be conceived how the former can exist without being a sequence of the latter, as gastric indigestion invariably precedes intestinal indigestion and is therefore always a factor which mingles its phenomena with all that which follows in its wake

If proteolysis is not finished in the stomach and duodenum, the substances which have not run the gamut of complete proteolytic disintegration must pass the remaining intestinal length untouched, or undergo putrefactive changes at the instance of bacteria which provide the necessary elements, and hence, abnormal and deleterious substances arise which to a greater or less extent furnish fuel for general systematic disturbances Intestinal putrefaction is then in its incipient stages, not due to a pathologic condition of the tube below the stomach and duodenum, but is dependent solely upon errors of gastric and pyloric digestive processes

When any quantity, however small, of proteid substances escapes gastric digestion and also the action of the trypsin enzyme, they are at once attacked by certain bacteria which through putrefactive processes change them into aromatic bodies, viz, indol, skatol, skatol-carbonic acid and phenol Excess of food ingested will universally induce such putrefactive processes which in infancy and childhood is exhibited in the bowel diseases of early life, and can, with reasonable certainty be differentiated from deflections by other causes, by the odor and appearance of the dejecta

In adult life, the subjective symptoms are available and form a most interesting chapter of complaints which are mostly dismissed after being labeled with the hackneyed term, "biliousness," whatever that may mean A coated tongue, a sluggish mind, a headache, a restless night, a treacherous memory, a hot, feverish, thirsty stomach, a bitter taste, a want of appetite, a fit of constipation, are symptoms which usually subject the liver, a very innocent but terribly abused organ, to a course of merciless therapeutic flagellation In the light of our present knowledge of the functions of the liver it would be wise, I think, to float out our therapeutic craft in waters where deep sea soundings are more familiar Its chemico-physiologic work is to a very great extent masked to us as yet, except as by inference when we analyze its by-product, the bile, and note the offices performed by its several constituents This phase of intestinal indigestion which, as I have said, is due to the primary action of certain bacteria on albumen and albuminoid substances which have slipped past the duodenal gateway without receiving the vito chemic touch necessary to render them innocuous is intermittent and transient, and of little consequence until by constant repetition it becomes a menace to the general organism The toxic elements generated in this process sooner or later render glandular and cell environments of the intestinal tube altogether unhealthful The air they breathe, the water they drink, and the food they eat, are charged with a miasm which absolutely forbids a healthy reaction, hence most complicated and decidedly serious pathologic conditions arise The final or end products of primary bacterial action on the proteid substances are carbon dioxid, water, ammonia, nitrites, hydrogen and sulpheretted hydrogen All taken together are really abnormal products in contact with tissues which will, for *a time, resist* their deleterious influence, but finally are compelled to succumb

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[3] Rev Med de l est October 1892, p 609

Another, and indeed the chief source of intestinal indigestion arises from the inability of the tube below the pylorus to successfully cope with the relatively enormous quantities of carbo-hydrates and hydrocarbons that are daily and continually ingested The argument has been made from almost every conceivable view point except, as a matter of course, from the true and logical one, that man is or should be a vegetable and fruit eating animal Just a little thought and attention will enable you to discover that every such argument is based on pure sentimentality I venture the assertion that our evolution has not yet carried us to that point of ideal construction where we can live continuously on vegetable foods and fruits without placing our health in constant jeopardy It will only be necessary for me to refer you to the *arrangement of the teeth in the* human subject and invite a comparison with vegetable and meat eating animals, then the fact that the stomach is almost wholly engaged in digesting lean meats, and similar substances, so utterly rules the whole controversy out of court as to render further reference to it wholly gratuitous The structural arrangement of the small intestine from the pyloric to the ileo cecal valve exhibits a degree of sameness, which is indicative of the fact that if the normal wants of the system were alone supplied, and the sense of taste was not intemperately gratified, its work would be relatively simple The muscularis of the intestinal tube like the heart and all the involuntary muscle structures is of mesoblastic origin and is energized and controlled by the ganglionic nervous system, hence, when digestive errors become chronic and ensuing pathologic changes take place, similar structures throughout the whole organism suffer, first in sympathy, then *after awhile take* on a community of degenerative changes which are traceable to this single point of deflection Perfectly normal intestinal digestion demands a perfectly normal anatomic apparatus with an unhindered physiology The downward peristaltic action must be continuous and just sufficient to keep the contents in constant motion The *valvulæ conniventes*, glands and villi, must be perfect in structure and arrangement so that they shall offer a normal resistance to the movement of material through the tube The normal stimulating substances within the tube will induce a flow of intestinal juice just sufficient to change and convert such substances into absorbable material, thus alternating periods of rest and activity which go together to make up a cycle of digestion will proceed absolutely without a sign or note to indicate the character of the labor being performed In fact, a sensation other than the consciousness that the body is at ease and the mind is active, is a signal carrying with it a warning which, if intelligently interpreted would be efficient in avoiding a host of complicated diseased conditions

Starches, fats, fruits, and sugars, do not excite fully, in fact only feebly, the flow of digestive juice in the stomach, the gastric fluid has no action whatever on this class of foods other than to assist in reducing them to a partial fluid When the stomach contents have been made fluidic, the pyloric valve relaxes and the small intestine receives the material, it is stimulated and at once begins to pour out its *secretion which becomes more and more* abundant, increasing in amount up to the sixth or seventh hour of digestion The whole mucous membrane becomes injected, and with the drops of mucus that are excreted we find an abundance of exudative epithelium An abnormal amount and kind of intestinal fluid can be provoked by over stimulation Let there be constantly present an over-quantity of acetic acid and the result is an over-secretion of intestinal juice This acid has the power to keep the mucous lining constantly injected and to keep the secreting cells working perpetually This factor alone is sufficient to induce an intestinal catarrh The acid is a fermentation product which in normal digestion is not present as an excess This and other acid formations are in excess when the sodium carbonate, a constituent of the intestinal juice, is insufficient to completely neutralize them at the point when absorption is about to take place While it is true that the contents of the small intestine are necessarily acid it is nevertheless important that they shall not be excessively so The pancreatic diastatic enzyme will form maltose, but is unable to further reduce this complex body The burden is shifted to the maltose-converting enzyme of the intestinal wall, at which point failure to render it into the simpler monosaccharides, results in the formation of ethylic alcohol which by the action of mycoderma is converted into acetic acid I have referred to this as one of the sources of excessive formation of acetic acid in the small intestine Another very important source is when over-quantities of starchy foods are taken Many of the starch granules pass into the small intestine with the cellulose covering intact They attract to their interior a molecule or two of water which furnishes the full complement for chemic disintegration The resulting products are alcohol, acetic acid, carbonic acid gas, and vinegar plant Finally the carbonic acid gas bursts the covering membrane of the starch granule and sets free the contents These act as irritants to the intestinal mucous membrane, keep it constantly over supplied with blood, which by and by results in thickening of the mucous membrane, interstitial exudate deposits in the commencement of the lymphatics, paralysis of the intestinal villi, finally the submucous connective tissue structure is infiltrated and thickened, and the whole muscular structure undergoes vital changes The inferior ganglia of the solar plexus becomes paretic, hence a constant production of intestinal juice which is impoverished in the elements which possess digestive potency—it consists almost wholly of water and a viscid sticky mucus, and now we are in the presence of what, in my opinion may aptly be termed the completion of the first stage of chronic intestinal indigestion When the villi are paralyzed in consequence of their constantly being bathed in carbonic acid gas, a product largely resulting from the destructive fermentation of both the carbo-hydrates and hydro carbons, they lose their power to consciously select such food elements as have already been prepared for passage into the general circulation and readily accept everything that they happen to come in contact with, thus rapidly vitiating the general blood stream The peristaltic movement is inhibited and after a time is completely paralyzed, when the constipation which is universally an accompaniment of this stage of intestinal indigestion ensues, bringing with it, its concomitant train of effects This stage of the disease may and often does, last for many years, rendering the patient more or less an invalid all that time

The second stage of intestinal indigestion presents quite a different, and altogether a much more serious pathologic picture The whole lining membrane of the intestine is now thoroughly catarrhal, its epithelial investment is no longer capable of performing its allotted work with any sort of regularity and normality The villi are practically paralyzed and entirely cease selective absorption, the whole glandular structure is undergoing degenerative and thickening processes, the ileo cecal valve is paralyzed, the cecal end of the colon now fails in its peristaltic movements, the valvular opening to the appendix is permanently relaxed, admitting into the tube whatever may be in the vicinity of its mouth, hence the frequency of appendicitis The colon becomes thickened throughout its entire structure, the colonic valves become lengthened and thickened Alternating constipation and diarrhea are symptomatic conditions which to a greater or less extent are always present The abdomen is now constantly tympanitic since digestion proper is greatly enfeebled and the abnormal fermentation processes have full sway The spurts of diarrhea are characterized by large, yeasty, foamy, gaseous discharges, generally preceded by a sharp cutting pain The diarrhea generally lasts for one, or at most two or three days, when it is again succeeded by a fit of constipation The danger of stercoremia is now past as it belongs to the constipation which is so prominent a factor in the second stage of the disease Other and decidedly serious complications will arise during the second stage of intestinal indigestion which can only be here referred to in a general way, however, the tracing is clear and distinct and without a doubt the pathologic conditions which express themselves under many and divers names have their origin and etiology in the host of digestive errors which follow in the wake of this stage of the disease

There is no way by which a distinct line can be drawn between the first and second stages of intestinal indigestion, as in many cases the conditions overlap each other We find at times severe and obstinate constipation in company with well advanced pathologic expressions of the second stage, or again, we find easily provoked diarrheal attacks early in the first stage The transmitted constitution and the environments will largely control the way in which the diseased conditions express themselves Probably the most prominent disease which I believe, independent of heredity, depends upon wrong digestion and mal-assimilation, is consumption of the lungs Through the vitiated blood stream all the organs ,of the body are badly nourished, the soil, so to speak, is prepared for tubercular and fibrous degeneration, a slight cold, over-fatigue, or any other depressing infience now acts as a precipitant, and the disease is established Consumption of the kidneys, so called Bright's disease, in its various forms depends upon an antecedent constitutional error The nervous system is the chief sufferer, and very early in the course of the disease begins to resent its environments by phenomena which should be, in fact are, symptoms which very clearly point to the continuity of causation and uniformity of the general law which induces them The diversities noted in disease of the nervous system are simply diversities of operation and when traced by the law of synthesis will as certainly lead up and back to the digestive system as the needle points to the pole The much written of, but poorly understood condition that now masks under the appellation of neurasthenia, will yield up its scepter quite readily when attacked intelligently and persistently from the ground where digestive errors exist I think it is indeed quite safe to assume that in every case of so-called neurasthenia, the stomach was the first to indicate a sense of systemic inharmony, following this in logical sequence came auto-infection which readily accounts for the mental and other phenomena which characterize neurasthenia The ataxys, cord and brain scleroses, of whatever peculiar type they may be, are to me logical outcomes from this stage of intestinal indigestion Probably the most convincing proof of this statement lies in the fact that a thorough course of treatment directed to the relief and betterment of the digestive system will, if properly conducted, dispel many of the acute symptoms in a few months In tabes dorsalis, the pains and girdle sensations disappear, as I have said, in a few months, in fact, I have seen the knee jerk restored, the patient could stand on one foot with eyes closed, could walk backward, and in short was so much improved that he could negative every classical test

The third stage of intestinal indigestion is so vast and so far reaching as to make it altogether out of the question for me to do more at this time than to simply call attention to the fact that in truth there are these three general divisions These may again be subdivided and classified, but I hold that the most simple classification is the best, as so much refinement in the grouping of symptoms and factor classifications will surely lead to confusion, and possibly to much harm, that many will be led to the treatment of symptoms and to the neglect of the potent force which is the active power in their production

In the third stage we have a large grouping of diseases which, when studied from this view point arrange themselves in most orderly sequence around their cause They mainly consist in such forms of pathologic action as result in speedy dissolution, as for instance, hasty consumption of the lungs, the forms of Bright's disease that run a rapid and fatal course, and consumption of the mesenteric glands Many if not all, the rapidly fatal diseases of the nervous system belong to this grouping Another form of expression is the reduction of the general systemic resisting power which so often is exhibited in attacks of acute affections We find these patients accepting acute diseases readily and frequently dying without presenting, objectively, an adequate cause

I think it may be taken as a statement of fact, that if the whole digestive system was made a matter of careful consideration, its relation to every organ in the body intelligently worked out, its needs and normal wants alone administered to, the existence of disease could be minimized and such as did exist could be scientifically and intelligently treated

I have purposely omitted in this paper, except a bare hint, all that pertains to the offices of the colon In this, the field of possibilities is so extensive, there is so much to say, that any attempt to include it in a single paper would result in a dwarfing of the whole subject I simply wish to add, in conclusion, that any form of treatment instituted for the relief and cure of intestinal indigestion must necessarily include a careful consideration of the stomach and colon, very little if any amelioration of symptoms will result unless they are both rationally included The colon is within easy reach *via* the rectum, and it has been my experience that colonic baths properly medicated are immensely useful in the general treatment and care of patients suffering with intestinal indigestion

A CASE OF FRACTURE OF THE THYROID CARTILAGE—RECOVERY WITHOUT TRACHEOTOMY

BY THOMAS B EASTMAN, A B M D
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Of the thirty cases of fracture of the thyroid cartilage reported by Durham, but ten of these recovered and most of them after a tracheotomy Indeed, most authorities unqualifiedly condemn any delay in operating, Cohen saying "Unless forestalled by precautionary tracheotomy and insertion of a tube, suffocative phenomena may intervene at any time from edema, displacement of fragments, or occlusion of the caliber of the air tube with blood clots"[1] He further says, "better far that an unnecessary tracheotomy should occasionally be performed without detriment to the patient than that a number of cases should be allowed to terminate fatally for the want of it"

Stimson says[2] "It is not safe to wait until it (dyspnea) has become extreme, for its increase at the last is often so rapid and so sudden that death takes place before relief can be given It is therefore the part of prudence to interfere early and before the interference is made actually necessary by the defective breathing"

Hunt[3] recommends tracheotomy when bloody expectoration or emphysema accompanies the other symptoms Hamilton, however, counsels waiting until respiration is seriously interfered with I desire to report a case of undoubted fracture of the thyroid cartilage recovering without tracheotomy, and thus add one case to the limited number which have recovered without operative interference

At no time during the first few days was I certain that an operation would not prove necessary, yet I was determined not to interfere until it was demanded by symptoms graver than were at any time present I believe that the result justifies my course

On Dec 14, 1894, Mr K, aged 38, foreman in a foundry, was struck in the "throat" by a heavy piece of timber hurled from a buzz saw at which he was working The timber also cut a gash in his chin which had been sewed up previous to my first examination, some six hours after the accident, when I found him with a temperature of 99 6, pulse 86, respiration 24 There was almost complete aphonia, dyspnea and cough which gave the patient excruciating pain At each paroxysm of coughing he ejected bloody mucus from the mouth Dysphagia was complete, even an attempt at swallowing saliva giving him much pain His face was livid The skin was discolored and the tissues about the larynx much swollen Inspection showed that the pomum Adami, rather prominent before the accident, was wellnigh obliterated, and that the thyroid cartilage was displaced to the right Manipulation showed abnormal mobility and on pressure inward the patient made me understand that he felt something stick him A diagnosis of fracture of the thyroid cartilage was made As nearly as could be determined by manipulation, the line of fracture extended from the highest point of the upper margin of the right ala of the thyroid cartilage in an almost straight line downward to the crico thyroid membrane In spite of the other grave symptoms the respiratory function was fairly well maintained, and on the strength of this symptom I decided to await developments No attempt was made to restore the normal relation of the parts Antiphlogistic measures were resorted to, believing that if the inflammation was kept within bounds much would be accomplished A Fothergill poultice was ordered placed over the seat of injury together with morphia sulphate gr ½, by the rectum, to be repeated as often as necessary to subdue the pain On the morning of the second day he was able to take a little nourishment by throwing his head back and allowing broth to run down his gullet, but any exercise of the muscles of deglutition still caused him great pain In this way he was fed for four days For five days he was unable to speak above a whisper, and at this time (twenty-four days after the accident), his voice is still impaired and the larynx much displaced to the right There is still abnormal mobility of the right ala of the cartilage

Dr G V Woolen, Professor of Rhinology and Laryngology, Central College of Physicians and Surgeons, of this city, saw the case on the seventh day after the accident, and I herewith append his report

"Dr Thomas B Eastman brought Mr K to my office for special laryngoscopic examination, with statement that patient had received a stroke from piece of flying wood across larynx, followed by violent inflammation, aphonia, hemoptysis, etc There was yet remaining a distinct depression in a perpendicular direction across the right wing of the thyroid cartilage with mobility from pressure Internally there was found considerable congestion of larynx, especially of region of right cord and ventricular band, both of which bulged into cavity of larynx and met opposite parts prematurely in efforts at phonation"

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[1] International Encyclopedia of Surgery, Vol v, page 265

[2] Fractures and Dislocations Vol I, page 298

American Journal Medical Sciences Vol II page 880

A FEW REMARKS ON THE EARLY HISTORY OF RECTAL DISEASES

Read before the Mississippi Valley Medical Society, Hot Springs, Ark , Nov 8 1894

BY S G GANT, M D
KANSAS CITY, MO

In the selection of historic medicine for my subject, I am well aware that I have chosen one that is rarely touched upon in medical societies and the current literature of the day The study of the history and progress of medicine has ever been of great interest to me I well remember, when holding down the benches at college, how the class used to enjoy a brief change from our routine lectures, when one of the professors would tell us about the heroes of medicine hundreds of years ago, and how such men as Hippocrates, Celsus, Galen, and others of the ancients, practiced the art and science of medicine, we listened attentively and marveled at their accuracy of diagnosis and the practical manner in which they effected a cure, this, too, with their meager knowledge of anatomy and physiology

The science of medicine and surgery extends its inquiries over such a vast field, and comprehends such an enormous mass of facts and observations, that it would be impossible in a paper of this length to give more than a brief *resumé* of the history of one special department of medicine, which, I trust will be of some interest to this society, viz , that of rectal diseases

I believe with that scholarly physician, William Bodenhamer, that there is no class of diseases within the whole range of medical literature which has a more ancient history, a more hoary antiquity, and a more conspicuous sacredness than some forms of rectal disease In fact, the history of this class of diseases embraces all ages, including Hebraic, ancient and modern history Medical men have, from the time of Adam down to the present day, devoted much time and study to these diseases The first recorded mention of rectal diseases that we know of was made by Moses, the law-giver This can be found in the fifth book of the old Bible After explaining to the Jews the manner in which they would be rewarded if they strictly carried out the laws of God, he goes on to say "And if thou wilt not hearken unto the voice of the Lord, and observe his commandment then all these curses shall come upon thee" He then records a number of curses, the only one of interest to us, however, is the following "The Lord will smite thee with the botch of Egypt and with the emrods (hemorrhoids), whereof thou canst not be healed" Now, if we turn to I Samuel, v 5, we find the following bit of interesting information He tells us that the Philistines took the ark of the Lord from Ebenezer and brought it unto Ashdod, and forthwith the hand of the Lord was heavy against them, and He smote the men of the cities both small and great, and they had the emrods in their secret parts" Again, in Psalms lxxviii, v 66, we find recorded that He smote His enemies in the hinder parts The ark of the Lord was then removed to Gath and Eckron with the hope that the plague, (emrods) would be removed, but such was not the case, on the contrary, these cities were alike afflicted The people then began to seek a way in which they might rid themselves of their afflictions, and to this end they sought out the priests, and inquired what they must do to obtain relief It is of interest to note the manner in which the cure was effected It appears that after consultation, the priests and divines told the people to return the ark of the Lord to the Israelites from whom they had taken it, but it must not be returned empty They must make a trespass offering of five golden images of the "emrods," according to the number of the lords of the Philistines, "for one plague is on you all, and all your lords Do this, and thou shalt be healed"

It is stated on good authority that the natives in the far East at the present time make images of their afflicted parts and offer them to their gods as a trespass offering, and believe that through them alone can they obtain relief, many of their places of worship being burdened with such offerings From the fact that the Israelites were threatened with the plague previously referred to, some writers have argued that the Jews from then down to our time are more frequently afflicted with rectal diseases of a *hemorrhoidal* nature than any other race of people They teach that this malady is inherited by the Israelites, and that it is entailed upon them and their posterity forever, because of spiritual disobedience From my limited study of Hebraic and ancient history, together with my personal experience in the treatment of these diseases among all races, both in private and hospital practice, I have been unable to obtain any evidence to substantiate such a claim On the contrary, I have had ample opportunity and have noted that the Jews are no more liable to be afflicted with rectal diseases than other people Again, there is not a single instance in the Bible where it states that the Israelites ever had this threatened punishment inflicted upon them On the other hand, there is abundant evidence to show that the plague with which the Jews were threatened was visited upon the Philistines some three hundred years thereafter, for stealing the ark In view of the limited evidence at our command, I believe we are justified in concluding that the Jews are no more liable to be afflicted with any form of rectal disease as a result of divine punishment, than are the Gentiles Unfortunately, we have no definite knowledge of the exact pathologic meaning of the Biblical term, "emrods," so frequently mentioned in the Scriptures This is owing to the wide diversity of opinions of the Biblical commentators Some took it to mean a disease similar to bleeding piles, others, that there was a prolapsus of the bowel which remained out until it became putrid and sloughed off, and others took it to be some form of dysentery, and not a few that it was of a fistulous nature The Greeks, Hippocrates, Galen, and others, evidently thought it to be a diseased condition of the rectal veins, accompanied by hemorrhage, for they substituted the word hemorrhoids for the Scriptural one, "emrods" Ever since that time, hemorrhage from the rectum has been diagnosed as such It would appear from the writings of the ancients that some thought the hemorrhage active, others, that it was passive It seems that they never mentioned anything about swellings or protrusions According to our more modern teaching, the term hemorrhoids is applied to almost any swelling about the anal region, no matter whether there be hemorrhage or not It at once becomes evident then that this term, as used by the early writers, was a misnomer and did not express the exact pathologic condition present, only the most prominent symptom Leaving the Hebraic and turning to that of ancient history, we find frequent mention of certain forms of rectal diseases, also the plan of treatment adopted

It is gratifying to note that in many instances the treatment suggested by the Greeks, Celsus, Hippocrates, Galen, and Rhazenand Abbas, the Arabian physicians and others of the ancients is practiced by the surgeons of our time with very slight modifications This demonstrates the fact that they were not altogether wrong in their pathology though they were lacking in the knowledge of anatomy and physiology that we possess I have neither the time or inclination to pay more than a passing glance at the treatment followed by the ancients in some of the more common forms of rectal diseases Fissures were described as superficial erosions, cracks, or chaps, and, being slow to heal, the treatment consisted in converting them into recent ulcers by paring, scarifying, or incising them with the finger nail or scalpel when they were made to heal by topical applications Hemorrhoids were ligated as to day, except that the skin was not severed to prevent after pain Those who did not favor the ligature method used the cautery by puncturing the tumors, in addition to which various drugs were used locally Fistula was accurately described by them and so far as I can find out their treatment consisted principally of setons and the local application of various drugs

Many of the ancient writers believed that divine power must be enlisted in order that a cure might be effected in the various forms of rectal diseases Others believed that an "amulet" was necessary, that to carry something in their pocket—a piece of metal, a precious stone, or a certain kind of nut or vegetable would cure them, and this practice is not abandoned to-day For many of our own countrymen carry with them a buckeye or a horse chestnut when suffering from piles or fistula, as an "amulet" for their relief or cure Many patients have told me of remarkable cures effected in this way The Irish potato comes next in favor to the buckeye, and it must be "dug out of the garden when the moon is right," put in the left trouser pocket, and is never to be removed under any circumstances After a time they shrink up until they are no larger than a pigeon egg and are as hard as a rock Then they will cure the worst case of piles From the time of the Greek writers down to about the fifteenth century there is nothing recorded that would be of especial interest in this paper, but about this time or a century later, the writings about different diseases were very prolific and have continued so ever since The reason given why the surgeons previous to this time said nothing about this class of diseases was because of the false delicacy in those who had them in not letting it be known Again, in olden times most rectal diseases were considered incurable, and for a person to have an incurable disease was to have a disgraceful one, hence, these persons suffered on in silence lest they reveal their disgrace, and be ostracized by society We find a very interesting instance of this in a treatise on "The Fistula of the Anus," originally written in Latin by John Astruc about 1715, the first individual work of the kind ever written, a copy of which I possess and value highly He says, "of late years (about 1700) was a case of fistula scarce seen or heard of by the physicians of the last age But when once Louis XIV, King of France, labored under this complaint it became fashionable, and a vast multitude of these cases suddenly presented themselves, and after the King's example every one made an open and voluntary confession of this once secret disorder" He then records a parallel case, by Pliny, in the reign of Tiberius Cæsar, he says, "the cholic first showed itself, nor did one man in Rome ever complain of this disorder until the Emperor had been severely attacked by it" Fistula in ano has been immortalized by Shakespeare in his play "All's Well That Ends Well," based upon the King's having a fistula This play is said to have been written in 1606 Again, the great historian, Hume, in writing of the death of King Henry V, who died about the year 1422, says he was seized with a fistula, a malady which the surgeons at that time had not the skill to cure It is said that Louis XIV deferred having an operation by the knife for many months though his attending surgeon, Monsieur Felix, insisted that such an operation was necessary if he anticipated a cure As the laity became aware that their sovereign was suffering from a fistula many cures were suggested by physicians, priests, and others who claimed that they had effected many remarkable cures by their respective methods and who took this opportunity to gain His Majesty's favor After deliberating he determined to give each one a chance to prove his assertions, but he was too long-headed to have the experiments tried on his own person He set apart a wing in the palace and placed a number of his subjects in the various rooms who were suffering from fistula, and all of the various remedies suggested, together with a number of mineral waters said to always effect a cure in fistula cases, were given a trial Not in a single instance was a cure effected At last the King, to whom Monsieur Felix gave an account of the experiments, determined to have the operation performed One morning when nothing of the kind was expected by the courtiers it was done, several incisions being made This happened on Nov 21, 1687 The cicatrization was well managed and the King perfectly cured His Majesty royally recompensed Monsieur Felix and his assistants, the total amount of the fee being $73,500 These were "royal days for surgeons," says a writer in the *Medical Chirurgical Review* Immediately after the King's recovery this disease became fashionable and hundreds of people flocked to Monsieur Felix to be operated on for this complaint It is even hinted that certain courtiers who previous to this time had concealed their afflictions, selected Versailles as the place to be operated on, for here the King would hear of their indisposition One writer goes so far as to say that some of them did not have fistula at all, and were much put out when informed that an operation was not necessary

My paper has now reached such a length that it would burden you, should I endeavor to even mention the various operations and methods of treatment that have been brought forward during the last four or five hundred years The investigations of the various important diseases affecting the terminal portion of the colon, have during this time been prosecuted with very considerable ardor, and the advantages gained in consequence have been markedly progressive, for this knowledge we are indebted among others to such celebrated surgeons as Brodie, Allingham, Cooper, M Boyer, Dupuyren, Van Buren, Bushe, Smith, Salmon, Curling, Ashton, Whitehead, Bodenhamer, Matthews, Kelsey, Cook and others, I was about to omit the name of that ingenious surgeon, Calvert, whose tallow candle led to the idea of the treatment of stricture by bougies

In concluding my paper, I wish to read a few verses from Erichsen's *Medical Rhymes* written by a patient while undergoing treatment for stricture It is said he left them on his physician's desk just before taking his departure for Niagara Falls, "where the water runs down hill with nothing on earth to hinder it"

"When sorrow's cloud is cast athwart
The sunshine of my mind,
When I with gloomy care distraught
No recreation find
When sighing o'er my helpless lot,
And what I used to be
I'll seek some quiet tranquil spot
And pass a small bougie

"Let strictures on my conduct pass
Unnoticed let them be
A stricture somewhere else alas!
Is more deplored by me
In hope this blight on manhood's bloom
I yet effaced may see,
I'll hie me to my quiet room
And pass a small bougie"

In the preparation of this paper I have made frequent reference to the following works Bodenhamer on the Rectum and Anus, 1855 Anal Fissures, 1868 and Hemorrhoidal Diseases 1884 Erichsen, on Medical Rhymes, 1884 Paul, of London, on Lower Bowel, 1869 John Astruc, on the Fistula of the Anus, in Latin originally, and translated into English by John Freke, F R S, London, in 1738

FIBROUS POLYPUS OF THE RECTUM

Read before the Delaware County Medical Society

BY G W H KEMPER, M D, AND HUGH A COWING, M D

MUNCIE, IND

The specimen here presented is one of fibrous polypus recently removed from the rectum of a girl aged 6 years At various times before the removal of the tumor, the child had passed slight quantities of bloody mucus, and the mother, at times, had noticed a fleshy mass presenting at the anal orifice The father had applied to us for medicine for piles, but the exceeding rarity of hemorrhoids in children led us to suggest to him to bring her in for examination, and that it was probably a case of polypus This was confirmed upon examination The tumor was attached by a long slim pedicle to the rectal wall nearly an inch above the external sphincter After the expulsion of a warm water enema the polypus came into full view, and its size and attachment determined A ligature was thrown around it near its junction with the pedicle and the tumor was removed, there being but slight hemorrhage The pedicle was restored to the rectum (without a ligature) Chloroform anesthesia was employed

According to Parvin, polypus of the rectum is rare in the adult, still rarer in either adult or child is rectal fibrous polypus

Gross refers to the uncommonness of polypi in the rectum, and divides them into two classes "Gelatinous or adenoid, and fibrous", the former being of far more frequent occurrence

Allingham remarks that "polypi of the rectum are usually described as being of two kinds, the soft or follicular, and the hard or fibrous, the former being found in children and the latter in grown persons' He also states "I quite concur in the statement that the soft polypus is the one always found in children, but I am of the opinion that the fibrous variety is rare, even in the adult" Subsequently he states that he does not remember meeting in his practice "with more than six distinctly fibrous polypi"

Dr Parvin (Trans Indiana State Medical Society, 1873, p 113) in his interesting article on "Fibı Polypus of the Rectum," gives the following histc

'Mrs ——, 42 years of age, a widow, states, that nearly four years she has suffered from pain in the rec tenesmus, hemorrhages, and that for some months past bowel has prolapsed whenever evacuated, requiring he replace it Besides—this is her narrative—the bowel cc forward into the vagina and presses against the uret causing frequent and sometimes difficult urination Sit for any length of time gives her great uneasiness while recumbent position she is comparatively comfortable medical advice she has used astringent injections for hemorrhage, which is supposed to result from piles examination, however, has been made The patient lyin her back, with her limbs drawn up, digital examinatic the vagina and then of the rectum determined the pres in the latter of a hard polypus, attached by a long pedicle to the anterior rectal wall, two inches above the Immediately the tumor was brought outside of the rec a ligature applied to the pedicle and the latter div below the point of ligation"

A REPORT OF TWO CASES OF LEPROSY NATIVE-BORN CITIZENS OF OHIO

BY J G McDOUGAL, M D

NEW LEXINGTON, OHIO

On Dec 19, 1894, there appeared before the Lexington Board of Pension Examiners, Hannal Garey, an applicant for pension as a dependant c of George W Garey, a deceased soldier of the Hundred and Eighty-Seventh Regiment, Ohio fantry Examination disclosed that she was a vi of anesthetic leprosy, the following manifestatio which she presented The left hand and distal t of fore-arm were swollen and rather firmly thicke the hand and wrist being about twice the no size The distal phalanges of all the fingers lost and the stumps healed The thumb was slig flexed, the nail deformed, thickened and discol

The hand was being amputated at the radio ca articulation by a narrow encircling ulcerative pr and the work was so near completion that only ulnar vessels and a few tendons attached the h Both surfaces were covered by granulations bathed with extremely foul smelling pus The hand and fingers were swollen and clubbed, the d phalanges of all the fingers lost, and the th affected as the left

Both feet were swollen to one and a half t normal size and the swelling also involved the l third of legs The first three toes of each foot lost at middle of proximal phalanges and the toes at distal joints The remaining toes were cl and the nails deformed In the middle of left was a deep ulcer from which there was a very offe discharge All the affected members were decid anesthetic—the thermal anesthesia being espec marked There was an anesthetic bleb, the size silver quarter, on outer side of right arm just a elbow The tongue, lips and nose were scarred somewhat deformed from ulcerations that had he

The subject of this description is 18 years of and this malady began to manifest itself when was fifteen months old In two or three years toes began to ulcerate and come off, and the h became involved, the flesh ulcerating from the fi leaving the blackened dry bones exposed and she persistently drummed on the tables and c until her mother cut them off with shears menstruated regularly from the time she wa years of age until about one year ago when m ceased The drain from the amputating ulcer developed about eighteen months ago probably caused the cessation of the menstrual flow

Learning that a sister 8 years of age had been similarly afflicted for three years I visited her finding the following evidences of the same disease Her feet are clubbed and legs stocky, and the skin covering them is thick and scaly and decidedly anesthetic Two toes are lost from each foot The hands are also thick and the skin covering them rough and anesthetic, the nails are growing deformed and dark

The parents and grandparents of these leprous sisters were all natives of Ohio and belonged to long-lived families The parents were married in 1866 There are eight children and all are healthy except Hannah M the fourth born, and Hattie the last born

The mother is 44 years old and healthy The father was pensioned for sunstroke He died from apoplexy March 10, 1893 The mother states that the only visible disease the father ever had was a skin eruption on end of nose and upper lip which gave off an offensive discharge It developed a few years after their marriage and never healed It must have been slight, as several acquaintances of whom I inquired had never noticed the affection He had consulted physicians about it, however, who had called it eczema and had treated him for it

The One Hundred and Eighty Seventh Regiment, Ohio Infantry, of which the father was a member was stationed during the few months it was in service at Nashville, Tenn , Dalton, Kingston and Macon, Ga

I am willing to submit without argument that the father was a leper, in whom the bacillus lepræ did not vigorously thrive, that leprosy was *communicated* to him while in the South during the war, and that he communicated the disease to two of his children

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REFLEX IRRITATION AS A CAUSE OF DISEASE

BY EDWIN WALKER, M D
EVANSVILLE IND

Medicine has suffered from "fads" from time immemorial

The authority of some great leader or teacher is enough to bolster up an error for a generation or more In fact, much that is to day taught is merely the dictum of some one who has never taken the pains to investigate the truth

No error in modern times has held such tenacious hold on the professional mind as that of reflex irritation as a cause of nervous disease To most of us the explanation of the occurrence of any nervous phenomenon or lesion is satisfactorily accounted for if some peripheral irritation is found, a long prepuce, some slight version, flexion or laceration of the uterus or other deviation from the picture in our charts, is sufficient to account for hysteria, epilepsy or other nervous disease This, too, in spite of the fact that all these minor lesions are repeatedly met with unattended by any nervous manifestation, yes, even gross disease of genital or peripheral nerves is often if not generally unattended with serious nervous disease

I have just had a patient, a lady of 35, who for four years has been attending to her household duties with an elongated, badly ulcerated cervix hanging between the thighs She has no nervous symptoms whatever, and seeks relief from the trouble merely for the local inconvenience

The theory has a few familiar conditions which seem to hold it up and are usually accepted as a full vindication—vomiting in pregnancy, and certain minor urinary difficulties from irritation from a long prepuce are some of these A moment's reflection will show how little there is in these They are merely slight exaggerations of physiologic reflexes and are not distinct nervous diseases Because pregnancy causes vomiting in many cases, it does not in the least warrant the conclusion that continued irritation of the uterus will cause epilepsy, insanity or other definite nervous disease On the contrary, a study of any of these will reveal deeper causes We should always keep in mind that peripheral irritation does give rise to reflex symptoms, but that this does not prove that they cause definite systematic nervous diseases

The reflex theory dates back many years Early in this century, and perhaps still earlier, it was offered as an explanation for certain neurotic phenomena, but its prominence in the medical mind of to day is due to the lectures of Brown Sequard on the physiology and pathology of the nervous centers, delivered in London in 1858 In 1833 Stanley had written of urinary paraplegia (Med Chir Trans , Vol xviii), but the prominence given to reflex irritation in these remarkable lectures gave it the impetus of authority which still sways the medical mind If I had the time, I would like to read you some of the cases cited by the author, that you might see how far he went with this idea For example, the extension of inflammation from one eye to the other, inflammation of the testicle due to passing calculi or ileo-sacral neuralgia diseases of the urinary organs producing paraplegia, also paralysis from worms or other irritation of abdominal viscera are attributed to reflex irritation He cites a case of peritonitis and death following operation on the cervix which he explains in the same way

In most of these cases we know to day better how to interpret the pathologic process, but at the same time the reflex theory was used as it now is to explain where our knowledge does not find anything better

Following Brown Sequard was I Baker Brown with his work on "Curability of Certain Forms of Insanity, Epilepsy, Catalepsy and Hysteria in Females," 1866 In this work he claims that many cases of the diseases mentioned are due to irritation of the pudic nerve and especially to that branch distributed to the clitoris, and they were to be cured by excision of that organ He reported eight cases of hysteria, seven of which were cured and one relieved by the operation

In 1870, Sayre reported cases of urinary troubles of various kinds, as well as paralysis and other grave nervous diseases due to adherent prepuce and these were promptly cured by breaking up adhesions or circumcision

Otis, in 1874, published a paper in which he reports cases of paraplegia enuresis and vague nervous troubles cured by urethrotomy for stricture of the urethra Since that time, although many of these claims have been proved fallacious, still we are constantly having contributions with reports of cures, all of the same vague and uncertain kind and by the removal often of slight peripheral lesions

Two years ago, Robert T Morris reported several similar cases cured by breaking adhesions of clitoris and prepuce It is not necessary for me to remind this audience of the uncertainty of conclusions drawn from the cure, or seeming cure, of any disease, but especially of neuroses The chances for error and deception are familiar to all Is there a physician here who has not encountered cases which he thought he had cured by some plan of treatment or operation, and later found that he was entirely mistaken and that the improvement was only transitory as is so common in all nervous diseases For nearly twenty years I have thought much of this question, my attention being first called to it by the articles of Sayre I followed his advice and did many circumcisions and later, mainly through the teachings of Emmet, did operations on the cervix and vagina, and have observed many cases of neuroses in women presenting various lesions of the genital tract, and I want to say here, that I have never seen a case of epilepsy, insanity, catalepsy, hysteria or grave neurasthenia, nor any organic disease of the nervous system, cured, or even permanently benefited by any operation on the genital tract, either done by myself or any one else I have also noticed as I believe every one else has, that a large proportion of patients who consult us for diseases or injuries of the genital tract do not suffer from definite nervous disease, and on the other hand, that of patients who do consult us for nervous diseases, many and perhaps most of them are free from genital disease It seems to me, therefore, that in a given case in which we find genital irritation and nervous disease, careful inquiry into the cause will develop other more potent causes The same is true of irritation arising from abdominal viscera or other peripheral irritation I have never, myself, had a case of nervous disease which I thought was due to peripheral irritation In most of them other causes could be demonstrated I want to be distinctly understood in this matter I do not deny that lesions of the genital tract may not in some way derange the nervous system, but I do say that it does not do it by reflex action For example, a woman has a bad laceration of the perineum, that interferes with her locomotion, it is difficult or painful for her to go about, her life becomes sedentary, she suffers with constipation, later dyspepsia from her inactivity, then her general system suffers from deficient nutrition as well as the want of healthful exercise The nerves are not nourished and disease is engendered Or a patient has some disease of the abdominal viscera, perhaps he has intestinal indigestion and nervous symptoms—a very common thing Are we now to say that his nervous disease is reflected from the bowels? No, indeed The lack of proper digestion and assimilation of food starves the system or by auto-infection poisons it Here we will find the causes of more neuroses than all the peripheral irritation you can trump up Auto-infection from poison generated in the intestinal canal or elsewhere, and starvation from mal-assimilation are the causes in most cases, and these should be looked into while repairing local lesions or injuries

The repudiation of the widely accepted importance of reflex irritation, as a cause of disease, is by no means original with me nor is it new Gull, in 1856, protested against it (Med Chir Trans) Jaccoud followed in the same vein in 1864 Romberg, Hussmaull Leyden, Weir-Mitchell and Goodell have pointed out some of its errors Skene, in his work on "Gynecology," devotes a chapter to gynecology as related to insanity of women, that should be carefully read Landon Carter Gray (Archives Anat and Surg) in 1882 published an able and comprehensive article on this error, and in his recent work devotes a chapter to it

I have tried briefly to direct your attention to what I consider a great error, and I believe you will find in the future that in any case where you are inclined to attribute the cause of any disease to reflex irritation, a careful study will reveal other more important etiologic factors

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D , LL D
NEW ORLEANS LA

(*Continued from page 125*)

Chapter III

Case 7—Yellow fever, severe case, jaundice, albumen in urine, recovery Wm Busse, age 25, native of Germany Has been in New Orleans seven months, and came here from Red River Seized with pain in the head and back and fever on Oct 11, 1873, and entered Charity Hospital, Ward 24, October 13 At time of admission, complained of pain in head, back and knees Tongue red at tip and edges and coated in the center October 14, conjunctiva of eyes congested and yellow, surface of body yellow, nausea and vomiting, breath and odor of body foul, urine abundant and contains albumen and casts On October 15 and 16, pulse intermittent, but the patient improving On October 20, the patient was able to sit up and to be brought down to my clinical lecture in the amphitheater, and on October 22 was able to walk about the hospital After the complete establishment of convalescence the patient was confined for several weeks by a painful abscess in the axilla The following observations were made on the pulse, respiration and temperature

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 14	84	90	32	86	103 4°	103 8°
" 15	80	86	24	26	100 2°	102 °
" 16	82	84	26	24	100 °	100 2°
" 17	84	86	26	30	101 °	101 8°
' 18	82	78	26	24	99 6°	99 2°
" 19	80	82	22	24	99 °	100 °
" 20	84	84	26	24	98 6°	98 °
" 21	88	92	24	24	100 °	101 °
" 22	78	96	20	22	98 2°	99 8°
" 23	82	84	22	24	100 4°	100 4°
" 24	80	82	20	18	98 4°	99 8°
" 25	80		20		99 7°	
" 26	80		26		98 8°	

Case 8—Yellow fever Edward Ryan, age 42, native of Ireland, resident of United States twenty-five years, in New Orleans one year, laborer Admitted to Charity Hospital, Ward 26 Oct 8, 1873 Was sick since October 4 At time of entrance, high fever, red swollen gums, restless On October 9 albumen and casts and bile appeared in the urine On October 17, when the patient was convalescent, the urine contained but a small quantity of albumen The following observations were begun on the sixth day of the disease and continued up to the nineteenth day and embraced the period of convalescence

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 11	75	70	31	36	100 7°	100 6°
' 12	68	72	30	36	98 6°	98 7°
" 13	60	61	34	36	98 6°	98 6°
' 14	60	66	36	30	98 9°	99 2°
' 15	58	56	32	32	99 2°	99 6°
16	58	60	26	26	99 4°	99 6°
' 17	52	62	30	36	99 4°	100 4°
' 18	60	58	30	30	100 °	100 °
' 19	58	60	28	26	99 8°	99 6°
' 20	60	62	28	28	98 2°	99 7°
' 21	80	80	28	28	99 7°	99 8°
" 22	80	70	28	26	99 2°	99 8°
23	86	68	26	25	100 8°	100 °

In the preceding case we observe that the lowest point in the action of the heart was reached on the seventeenth day of the disease, when the pulse was only 52, notwithstanding that the respiration was 80 *It is also worthy of note that* as in many other cases of yellow fever, both during convalescence and in the state of depression preceding death, the temperature fell below the normal standard This, however, is not always so in fatal cases, which frequently terminate with high temperature

Case 9—Yellow fever followed by malarial fever John Clooney, native of Liverpool, age 26 Entered Charity Hospital, Ward 26, Oct 14, 1873 Patient had been working on rice plantation twenty five miles above New Orleans On October 1 was seized with chills and fever Yellow fever appeared to have been engrafted on the paroxysmal fever After producing its characteristic phenomenon, the malarial fever again appeared and was arrested by the free use of quinin

Date	Pulse		Resp		Temp		Remarks
	M	E	M	E	M	E	
Oct 14	100	118	20	28	100 8°	101 6°	Pain in head, epigastrium and back perspiring freely urine contains albumen red color
15	98	100	18	21	100 9	101 5	Perspiring appetite gone pains relieved conjunctiva yellow and tongue slightly coated
“ 16	98	92	18	18	100 8	100 4	Improving urine contains albumen
“ 17	88	96	18	22	100 2	100 8°	Improving albumen in urine
“ 18	92	94	18	21	99 2	100 °	Continues to improve pulse intermittent
“ 19	80	84	18	21	99 8	99 6	Improving
“ 20	84	86	22	22	99 8	102 °	Fever appeared in the day
21	80		22		100 6		Fever
“ 22	84	86	20	22	99 5°	102 2°	No albumen in urine fever pulse irregular and patient very nervous
“ 23	86	100	16	14	99 7°	102 6°	Fever very nervous hands tremble.
“ 24	80	82	14	12	99 7°	100 °	Quinin freely administered perspires abatement of fever patient very nervous perspiring freely respiration irregular and oppressed
“ 25	80		14		99 6°		Nervous respiration irregular twitching of muscles no albumen in urine and rested
26	94		16		99 4°		Perspiration, rest and sleep during the night hands and limbs very tremulous and nervous
27	84	80	22	21	99 3°	100 °	Improving
28	80		18		100 2	100 2°	Improving
“ 29	80	84	18	18	100 2°	100 7°	Improving
“ 30					100 6°		

The diagnosis in this case presented some difficulty, with reference to the question whether the disease was yellow fever or remittent malarial fever It is worthy of note that while the albumen was present in the urine of the yellow fever, it was absent during the subsequent attacks of malarial fever

Case 10—Yellow fever succeeded by intermittent fever, the latter disease arrested by quinin, recovery H M, age 22, native of Germany, butcher, has resided in New Orleans for four years Says that he had fever four days before entering the hospital Entered Charity Hospital, Ward 24, Oct 3, 1873, with high fever, intense jaundice and capillary congestion The fever intermittent October 8 The following record of temperature embraces the period of convalescence from yellow fever, and the appearance of the periodic malarial chills

Date	Pulse		Resp		Temp		Remarks
1873	M	E	M	E	M	E	
Oct 9	96	100	26	28	100 2°	100 6°	Intense jaundice capillary congestion
“ 10	94	90	21	24	99 8°	100 4°	Intense jaundice capillary congestion
“ 11	98	88	25	23	100 7°	100 4°	Intense jaundice capillary congestion
12	82	80	22	24	100 6°	100 °	Jaundice disappearing
13	84	88	22	24	100 7°	100 8°	Improving sitting up
“ 14	84	72	24	22	101 9°	99 °	Intermittent pulse
“ 15	82	104	22	25	100 6°	104 6°	Chill during day, followed by fever
16	68	60	22	22	99 4°	99 7°	Intermission
“ 17	70	116	22	30	100 °	105 °	Chill at 8 p m followed by fever
“ 18	60	68	22	22	98 2°	99 4°	Intermission quinin 5 grains four times every three hours
“ 19	78	78	26	22	100 8°	99 6°	Intermission 5 grains quinin four times
“ 20	74	66	26	24	100 7°	99 8°	Intermission
“ 21	100		26		103 °		Chill during night
“ 22	*	*	*	*	*	*	Intermission quinin freely given
23	*	*	*	*	*	*	Intermission quinin freely given
“ 24	*	*	*	*	*	*	Intermission quinin freely given
“ 25	*	*	*	*	*	*	Intermission quinin freely given

* Normal

In this case the patient had had repeated chills and fever during the summer and fall, which continued up to the time of the attack of yellow fever This latter disease induced its cycle of changes, and was of a continuous type Six days after the subsidence of the yellow fever febrile stage, the malarial fever reappeared at stated intervals and manifested its characteristic paroxysmal phenomena

Case 11—Yellow fever, hemorrhage from mouth and tongue, jaundice, pulse reduced during convalescence to 42 per minute, treated with sulpho carbolate of sodium, recovery Telespert Brutet, age 20, native of Canada, laborer Has resided in New Orleans two weeks Entered Charity Hospital, Ward 13, October 28 Attack of fever began with a chill which lasted three hours and was followed by intense headache and pain in epigastrium back and lower extremities From the account given by the patient, he appears to have entered the hospital on the fourth day of the attack The following is the record of the pulse, respiration and temperature

Date	Pulse		Resp		Temp		Remarks
1873	M	E	M	E	M	E	
Oct 28	*	*		30	99 5°	102 2°	Conjunctiva yellow, face and chest with a tinge of yellow tenderness of epigastrium pain in head, back and lower extremities nausea and vomiting stomach irritable retains nothing but fragments of ice Vomited matter streaked with blood tongue coated in the center, very red at tip and edges gums red mucous membrane of mouth red and ecchymosed in places conjunctiva injected surface injected pulse feeble and irregular, cannot be counted patient very weak urine loaded with albumen and casts strong acid reaction
“ 29	72	76	20	18	99 °	101 °	Thirst and dryness of mouth continue jaundice increases, action of heart very feeble urine red and albuminous
“ 30	60	54	20	18	99 2°	99 °	Slept for a few hours appears to be better vomiting almost entirely arrested pulse slower but stronger
“ 31	41	41	18	16	97 6°	98 4°	Slept well during night heart beats feeble respiration slow but deep drawn improving gums and tongue bleeding spits blood urine albuminous
Nov 1	42	50	14	16	98 2°	101 8°	Hemorrhage from tongue and gums continues heart actions feeble urine albuminous general symptoms improving jaundice well marked
“ 2	50	54	20	23	98 2°	101 8°	Heart still beating feebly hemorrhage from tongue and gums otherwise improving
“ 3	54	41	18	18	98 6°	98 °	Tongue moist and not so red hemorrhage stopped action of heart still very feeble
“ 4	41		17		98 6°		Improving
“ 5	44		16		98 8°		Improving
“ 6	46	42	20	20	99 4°	99 8°	Continues to improve
“ 7	48		20		98 °		Convalescent

*Feeble irregular

This patient was treated from October 28 to November 2 with 20 grains of the sulpho-carb of sodium every three hours

In the preceding case, coupled with a small amount of black vomit and continuous hemorrhage from the mucous membrane of the mouth, there was depressed temperature, slow pulse and a very feeble action of the heart Although the prognosis in this case was unfavorable for at least six days, the patient passed by slow stages to complete recovery

The following cases of yellow fever treated in my wards of the Charity Hospital in the autumn of 1873, were all attended to a greater or less extent with jaundice and the observations upon the pulse, respiration and temperature relate to the period of convalescence

Case 1—E S, age 27, attacked with yellow fever September 18 During convalescence, while the conjunctiva and skin were still yellow the pulse ranged from 56 to 61, respiration from 17 to 22, and the temperature between 98 5 and 100 degrees

Case 2—J J, age 21, laborer, native of Wales, contracted fever in Memphis, Tenn , September 10, during convalescence while still jaundiced pulse 68 to 97, respiration 22 to 28, temperature 99 5 to 102 degrees

Case 3—H S, age 20, native of Germany, laborer, attacked Sept 29, 1873 During convalescence, pulse 43 to 70, respiration 12 to 14, temperature 99 to 100 degrees

Case 4—H A, age 40, native of Germany, attacked with pain in head and back, and fever Oct 3, 1873, entered Charity Hospital, Ward 27, October 6 October 8, evening, pulse 79, respiration 28, temperature 102 degrees October 9, morning, pulse 92, respiration 27, temperature 102 5 degrees, evening, pulse 94, respiration 27, temperature 102 5 degrees October 10 morning, pulse 78, respiration 22, temperature 97 9 degrees, evening, pulse 75, respiration 22, temperature 99 degrees October 11, morning, pulse 58, respiration 19, temperature 97 degrees, evening pulse 63, respiration 21, temperature 98 7 degrees October 12, morning, pulse 66, respiration 20, temperature 98, evening pulse 56, respiration 20, temperature 98 degrees October 13, pulse 64, temperature 97 5 degrees

Case 5—F H, age 18, native of Kentucky, laborer, admitted to Charity Hospital, Ward 13, Oct 3, 1873, second day of disease October 8, convalescent, but still jaundiced, pulse 50, respiration 20, temperature 98 5 degrees October 9, morning, pulse 54, respiration 20, temperature 97 4 degrees, evening, pulse 62, respiration 20, temperature 98 6 degrees October 10, morning, pulse 56, respiration 18, temperature 97 8, evening, pulse 58, respiration 20, temperature 99 6 Discharged October 12

Case 6—G O, age 35, native of Ireland, laborer Entered Charity Hospital, Ward 25, on third day of disease October 8, moderate fever, pain in head, back and epigastrium, evening pulse 93, respiration 23, temperature 101 degrees October 9, morning, pulse 89, respiration 29, temperature 100 degrees Conjunctiva and skin yellow, urine contains bile and albumen, evening pulse 85, respiration 26, temperature 100 degrees October 10, morning, pulse 85, respiration 23, temperature 99 5 degrees, evening, pulse 93, respiration 26, temperature 99 5 degrees On the 9th the urine was suppressed, great capillary congestion of the extremities, face and neck, black vomit during the night of the 10th

Post-mortem examination revealed the characteristic lesions of yellow fever If the last case be compared with the four preceding cases, which terminated favorably, we observe that in them the pulse was not so accelerated as in the fatal case, with urinary suppression and black vomit

Case 7—Yellow fever, jaundice, recovered L K, age 19, native of France, taken sick on October 18, 1873 with a chill followed by fever which continued for five days, up to 8 P M, on October 23 During the period of convalescence, extending from the fifth to the twelfth day of the disease, the temperature ranged from 102 on the fifth day to 97 5 degrees on the eighth day, the pulse ranged from 60 to 86 beats per minute, and the respiration from 20 to 30 per minute The pulse descended gradually from 86 on the fifth day with a temperature of 102 degrees, to 60, with a temperature of 98 6 degrees, on the tenth day of the disease

Case 8—Yellow fever Maurice Pierre, age 28, native of Switzerland, came down the Mississippi River from St Louis, and in passing Memphis went ashore for a short time After having been in New Orleans for five days, the patient was seized with a chill on October 19, which was followed by a fever of continued type and which did not abate until October 22 Entered the Charity Hospital evening of October 21 with a temperature of 103 5 degrees From the fourth to the ninth day of the disease, the temperature ranged from 97 5 to 101 2 degrees, pulse from 56 to 78, respiration from 24 to 32 Both the respiration and the pulse were at times intermittent The urine contained but small quantities of albumen and the jaundice was comparatively slight in this case, notwithstanding the apparent mildness of the fever, the pulse descended to 56 beats per minute and was intermittent and irregular

Such facts indicate that the slow and intermittent action of the heart in yellow fever during convalescence and in fatal cases during the period of calm or depression following the active febrile stage, is not solely due to such matters as the bile in the blood, but rather to the structural alterations of the muscular fibers which I have fully described

Case 9—Yellow fever, jaundice, slow pulse, recovery Dennis Manning, age 28, native of Ireland Has resided in New Orleans seven years Entered Charity Hospital, Ward 24, November 4 Tongue red at tip and edges, gums congested, red and bleeding, intense thirst, vomiting, can retain nothing upon stomach, great capillary congestion, restless and sleepless, hiccough, urine loaded with albumen and casts Ordered sulpho-carbolate of sodium, 20 grains every four hours, ice bag to epigastrium, ice-water injections to rectum, iced milk, fragments of ice in mouth

November 7, pulse 66, respiration 20, temperature 100 degrees at 8 A M, November 8, at 8 P M 101 degrees, conjunctiva yellow and congested, surface of body yellow and congested, 8 A M, pulse 60, respiration 20, temperature 98 5 degrees At 8 P M, temperature 99 Restless and prostrated, urine loaded with albumen and casts

November 9, 8 A M, pulse 66, respiration 16, temperature 99 degrees, 8 P M, pulse 66, respiration 14, temperature 98 degrees Tongue red at tip and furred, cracked and bleeding, gums congested and bleeding, great muscular prostration, action of heart slow—beats feeble Treatment continued

November 10, 8 A M, pulse 60, respiration 20, temperature 98 degrees 8 P M, pulse 60, respiration 20, axilla 99 degrees

November 11, tongue and gums red and bleeding, jaundice and *great congestion of capillaries of surface and extremities* which present a purplish mottled appearance, urine loaded with albumen, dizziness in head At 8 A M, pulse 52, respiration 20, temperature of axilla 97 6 degrees At 8 P M, pulse 68, respiration 20, temperature 100 Improving, bleeding from tongue and gums almost entirely arrested, dizziness in head still continues, pulse slow, but action of heart is feeble and patient incapable of any great exertion

November 12, pulse 52, respiration 18, temperature 99.2 degrees At 8 P M, pulse 54, respiration 20, temperature 100 degrees

November 13, 8 A M, pulse 51, respiration 20, temperature 99 degrees At 8 P M, pulse 48, respiration 20, temperature 99 degrees

November 14, 8 A M, pulse 48, respiration 16, temperature 99 5 degrees Continued to improve and was discharged in good health

Case 10—Yellow fever, engrafted on paroxysmal malarial fever and followed by remittent fever and phthisis pulmonalis Charles Scott, age 32 native of New Brunswick, carpenter, resided in New Orleans for eight months Admitted to Charity Hospital Ward 13, Sept 29, 1873 Says that three days before entering the hospital he was seized with a chill which lasted five minutes, and was followed by a fever of eight hours duration The fever was again followed by chill and fever After the relief of the paroxysmal fever by sulphate of quinia, a continuous fever with pain in head and back appeared on October 5 The following observations were recorded in this case, illustrating the supervention of paroxysmal fever during convalescence

Date		Pulse		Resp		Temp		REMARKS
1875		M	E	M	E	M	E	
Oct	8		67		25		100 °	Patient has no fever but has pains in lumbar region
"	9	60	64	22	22	99 4°	100 °	Feels fairly well, but weak, albumen in urine
"	10	60	62	20	22	99 6°	101 3°	Appears to be improving albumen in urine
"	11	52	59	25	24	100 4°	101 2°	Did not rest well during night tongue furred and very dry thirsty drank ice water but vomited it up
"	12	52	52	22	23	100 2°	101 °	Conjunctiva and skin yellow swollen tongue red and apparently with spots of blood on it
	13	51	56	24	25	99 5°	100 5°	Jaundice heaviness red gums and tongue pain and heaviness in epigastrium
"	14	60	58	26	26	100 1°	100 5°	Severe pains in epigastrium tongue red at tip and edges, gums red jaundice
"	15	52	62	26	25	100 °	101 5°	Jaundice urine abundant, albuminous
"	16	54	60	30	25	100 °	101 5°	Jaundice urine abundant albuminous pain in epigastrium and lower extremities
	17	48	55	25	26	100 5°	102 5°	Jaundice and great congestion of capillaries urine abundant and contains albumen and casts, pain in epigastrium and lower extremities
"	18	54	52	30	30	101 2°	101 2°	Congestion of capillaries jaundice
"	19	50	52	24	18	101 °	102 °	Fever in evening patient very weak cannot sit up in bed, nervous pains in epigastrium
"	20	70	56	28	26	101 °	102 °	Feeling of uneasiness in epigastrium albumen in urine jaundice diminishing
"	21	72	80	28	28	101 1°	102 2°	Jaundice diminishing, patient feels stronger

22	75	80	25	26	101 °	102 °	Still very weak and exhausted by least motion
23	68	68	20	20	100 °	101 °	Appears to be much better
24					103 °	104 °	Paroxysm of fever
25					104 °	101 °	Fever quinin freely administered
26	71	70	22	21	101 °	98	Fever subsided
27	80	68	21	25	99 °	101 5	Convalescent
" 28	80		[illegible]		101		Convalescent

After the subsidence of the yellow fever it was found that the temperature did not subside, but still kept up, and upon careful examination I found evidence of phthisis pulmonalis in both lungs The following is the record of the pulse, temperature and respiration after the subsidence of the yellow fever

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 28		72		25	102 5°	103 °
" 29	88	88	24	32	102 °	104 °
30	88	94	28	30	101 5	104 5°
" 31	84		28		101 5°	104 5°
Nov 1	92		28		101	103 5°
2	92		32		101	103 °
3	90	88	24	[illegible]	101 5°	103 °
4	90		24		100	104 °
" 5	91	88	22	21	100 8°	101 2
6	84	79	24	21	100 6°	101 5°
7		100		32	101 °	103 2°
" 8	80		25		100 5°	101 6
9	84	88	32	28	101 5°	102
" 10	84	88	28	30	101 5°	102 3°
" 11		90		28	101 5°	103 °
12		100		30	101 5°	103 °
13	88	88	26	32	101 2°	101 5°
" 14	90	84	28	24	102 2°	102 5°
15	98	[illegible]	28	28	102 °	101 °
" 16	90		32		102 °	

Case 11 —Yellow fever Charity Hospital, Ward 25, John Pflum, age 26, native of St Louis, fever begun with a chill of half an hour's duration, followed by fever on October 7 The fever continued up to the time the patient entered the hospital, Oct 20, 1873 Had been sick two days before entering the hospital

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 20	78	74	28	26	101 5°	101 5°
21	72	76	24	26	102 °	103 °
22	66	72	22	21	101 1°	103 °
" 23	66	70	22	24	100 °	100 2°
" 24	64	70	24	22	100 1°	101 1°
25	62	62	22	20	99 8°	100 °
26	64	60	23	25	99 1°	99 1°
27	60	59	22	18	97 °	98 5°
28	60	56	18	20	97 6°	98 °
29	60	76	18	24	98 °	98 6°
30	62		18		98 2°	

REMARKS

October 20 —High fever skin congested conjunctiva of eyes very much congested and injected tongue furred and red at edges great pain in forehead and throat passes urine only with great effort ordered iced milk and ice fragments in mouth gums congested

October 21 —Passes urine with great effort urine loaded with albumen complete suppression of urine during night grows restless and talks at random during the night

October 22 —Ice cold injections ordered and repeated three times after the third injection passes quite a quantity of urine when patient gets to sleep complains of nausea when the sulpho carb of sodium was ordered in 10 grain doses repeated every two hours which afforded relief to the symptoms and nausea

October 23 —Patient slept well during night has been able to drink a glass of milk and cup of beef tea during the night, passes urine quite freely loaded with albumen, and urine is greenish yellow in color

October 24 —Bowels moved feels great relief and expresses himself as better continue the sulpho carb of sodium as above ordered drinks milk and beef tea urine passes pretty freely albumen present in urine but decreasing in amount complains of hunger bowels moved

October 26 —Tongue clearing off skin begins to clear up great hunger urine returning to the normal standard quantity of urine increasing

October 27 —Patient sat up during the day

October 28 —Goes about the ward, but watched albumen disappears from urine

October 29 and 30 —Patient goes about is discharged and goes out cured

Case 11 —Yellow fever Adolph Kammer, age 21, native of Sweden, has been in America six years in St Louis, Mo Admitted in the Charity Hospital, Ward 18, November 1, 8 P M Had been in New Orleans two weeks, sick two days previous to entrance

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Nov 2	81	82	32	43	101 5°	105 °
3	86	96	32	34	102 °	102 5°
" 4	72	70	28	36	101 5°	102 °
" 5	51	48	26	24	98 5°	101 °
" 6	52	50	26	22	98 8°	98 °
" 7	46	50	22	24	97 5°	98 5°
" 8	45	51	22	22	97 7°	98 °
" 9	52	50	26	27	97 8°	98 °
" 10	48	48	20	19	98 °	98 2°
" 11	52	52	26	21	98 °	98 2°
12	51	52	24	21	98 °	98 2°
" 17	52	46	26	21	98 °	98 2°

REMARKS

November 2 —Skin hot and dry slight jaundice gums congested tongue dry and swollen kidneys acting imperfectly Passed a small quantity of urine by catheter urine loaded with albumen ice water injection caused passage of urine during day and evening

November 3 —Complains of stomach but relieved by ice sprays to epigastrium Has been treated with sulpho carb of sodium, ʒij divided into 6 powders one powder (20 grains) every four or six hours milk punch, brandy and beef tea and small lumps of ice in mouth At night slight hemorrhage from the gums passed urine quite freely towards the morning of November 4 urine dark colored and loaded with albumen and bile

November 4 —Very quiet during the day perspires freely and seems to be in better condition passes urine freely Continue sulpho carb of sodium in the same doses Milk punch beef tea and ice Wash the face and hands with tincture of camphor and water this seems to refresh him greatly Bowels have been moved

November 5 —Passed a good night had some sleep begins to look more cheerful and desires to sit up

November 6 —Passed a very comfortable night jaundice disappearing urine freely passed urine still contains albumen, but the quantity is diminished

November 7 —Doing well sits up all pain disappeared, although quite weak eats and sleeps well jaundice disappearing

November 8 —Patient still improves albumen disappeared from urine walks around

November 9, 10 11 and 12 —Rapidly improves jaundice disappearing rapidly slight traces of yellow in eyes

November 13 —Discharged from observation and leaves, November 17, quite well

(*To be continued*)

THE IDENTIFICATION CARDS OF THE U S ARMY

BY MAJOR CHARLES SMART U S A

Every recruit enlisted in the U S Army, besides being examined as to his physical qualifications to undertake military duty, is subjected to a careful scrutiny for scars, moles, tattooings and other permanent marks on his person by which his identification may at any time be determined These are recorded in their proper locality on a card bearing a front and back view, in outline, of the human figure The card of each recruit, as soon as completed, is forwarded to the Surgeon General's Office, where it is compared with the cards of the deserters, ex military convicts and other undesirable men that have been filed in the office during the past six years Should the result of this comparison be favorable to the man, his card is then placed in an alphabetical file and there continues until the honorable termination of his service The office of the Surgeon General thus contains an identification card for every enlisted man now in the military service Should any of these men desert or be convicted of some military crime involving dishonorable discharge, his card would immediately be transferred to the file of "undesirable men"

For convenience of reference and *comparison, the* cards of the undesirable files are arranged systematically, the first division in accordance with location of scars, those cards showing a scar on the right forehead being in one file box or drawer, on the left forehead in another, and so for fifty eight anatomic locations or divisions of the surface of the body Each of these files is subdivided by height into seventeen sections beginning with "64 inches and under" and proceeding by half-inch gradations to

"72 inches and over," and each of these sections is, if need be, separated into two groups by color of eyes, blue or brown To permit of accuracy in the determination of color, the Surgeon-General has issued to medical and recruiting officers chromo-lithographed standard eye colors, by which the various shades may be indicated with precision, as Blue, No 1, Brown, No 4, etc, on the identification card The cards of all undesirable men having the same height and color of eyes, with scars similarly situated on the body, are thus brought together and used with facility for purposes of comparison

The second division of the files is arranged in accordance with location of birth marks, including moles, and these are subdivided as in the case of scars by height and color of eyes These two divisions give 3,944 final groups—2×58×17×2=3,944 Up to this time some of the sub-files have not required division by height or eye colors, on account of the small accumulation of cards of that particular kind

The third division provides for the cards of men who have suffered amputations, as of part of the ear, toes or fingers These give twenty-three sub-files without division by height or eye colors The fourth division consists of tattoo markings which are separated into "distinctive" and "common" The first includes letters and initials, words, phrases, numbers and common tattoos in unusual locations, the second consists of hearts, crosses, anchors, sunbursts, flags, coats of arms, ballet girls, etc The latter are grouped by location

Separate files are kept for white and for colored men The negroes are not subdivided by eye colors, but a sub-file is kept for those colored men who have blue eyes, this color in itself being a distinctive mark for these cases This system of filing gives a total of 337 divisions, with 7,033 subdivisions, and it has the merit of being susceptible of expansion or contraction to meet the requirements of the service in which it is engaged It may be contracted by omitting to subdivide by the eye colors, by making fewer subdivisions for height and by increasing the size and lessening the number of the surface locations, and it may be expanded by subdividing those anatomic locations which call for such treatment by a large accumulation of cards

If an undesirable man has several notable scars on his person a card is made to be filed under the location of each of the scars, to insure his detection A man having a prominent scar on the right forehead and another on the left shin has a copy of his identification card filed under both of these locations In examining the files a margin of one inch below and half an inch above the recorded height is assumed to be needful on account of inaccuracy in taking measurements The card of a recruit said to be 66 inches tall is compared with the cards of deserters from 65 to 66 5 inches This suffices to cover the limits of inaccuracy in ordinary cases

This system has proved most efficient in the Army The Bertillion system of measurements is merely an index by which the card or record of an individual may be discovered in a mass of others, his identity is determined subsequently by reference to personal marks and other data An error in any one of the various measurements will throw the investigator off the track of the required individual In the U S Army system the personal marks themselves constitute the index and there is no liability to get off the track except in the case of height which is specially guarded as above mentioned

SOCIETY PROCEEDINGS

Louisville Academy of Medicine

The regular meeting of the Academy was held in their rooms Monday evening, January 21, Dr F C Simpson, Vice-President, in the chair Dr J M Ray exhibited a case of double empyema of the antrum, in which different operations had been done on the two sides The first operation had been done in July last, with the aid of a dental surgeon the second molar tooth was drawn, an opening drilled through and a gold tube introduced, the cavity being washed out through this opening The operation on the other side had been done in September, 1894, the opening being made through the canine fossa, and a Miles antrum soft rubber drainage tube introduced, of the two the latter operation seemed the most effectual as the drainage was better through the opening in the canine fossa The case was exhibited with the drainage tubes *in situ* The transillumination test in this case had not been satisfactory, owing to the double trouble

Dr T C Evans stated that in his experience the light test was very unsatisfactory, the diagnosis being made more from the other symptoms

Dr Dabney stated that in his experience the lamp test had proved very satisfactory The points to be observed in its application which may often cause it to be unsuccessful, were 1, have the room totally dark, and 2, always ask if patient has a plate in the mouth

Dr Vance exhibited a case of double inguinal hernia which has been reported in detail in *Mathews Medical Quarterly*, Vol I, page 225, and in whom the hernia has not descended for eight months, the cure being almost entirely complete from the mechanical effect of the truss described in the article above referred to

Dr Rodman showed a case who had been kicked by a horse, over a truss, which was worn over an irreducible hernia A week later he was operated on, an incision was made and fecal matter with pus escaped, and continued to pass through the opening for a week The case was undoubtedly a rupture of an irreducible hernia with spontaneous reduction and a radical cure resulting from the inflammatory action He also reported and exhibited six other cases in whom an operation for the radical cure of hernia had been done, the length of time elapsing being from a few months to eighteen months without a relapse In one of these cases while tying off the sac he had included the appendix and amputated it, having considerable hemorrhage from the artery Kocher's method of operating was used

Dr W H Wathen reported a case of double intra ligamentous cyst, the two cysts being on the same side but entirely separate and distinct, the largest perhaps originated in the hylum of the ovary, the other perhaps in the par ovarium The patient is now convalescing, and the cyst is being washed out, first with peroxid of hydrogen, followed by sulphurous acid 1 to 10, which kills offensive odors most excellently Dr Rodman then showed a specimen of acute necrosis of the bones of the leg following acute osteo-myelitis Ten weeks ago, the patient, a boy of 14, fell under a horse, his leg being caught under it, there was no wound, no fracture, but great pain occurred in the tibia some little time afterward There was hectic, temperature 103 degrees, pulse 130 When first seen sinuses riddled the leg throughout A preliminary operation was done, and no sound bone was found An amputation was immediately done as he took chloroform poorly Examination of the leg afterward found two spontaneous fractures at the epiphyses and the bone necrotic throughout, the process extending to the soft tissue

The papers of the evening were then read, Dr Vance reading Dr Bullitt's paper in his absence on the "Truss Treatment of Hernia," and the one on the "Operative Treatment of Hernia," was read by Dr Rodman

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO., WASHINGTON AGENT

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SATURDAY FEBRUARY 2 1895

SYPHILIS IN THE ETIOLOGY OF NERVOUS DISEASES

Within a few years there has been a great change in views regarding the importance of syphilis in the causation of nervous diseases especially tabes dorsalis and paretic dementia For several years after the publication of ERB's tables on tabes there was a contest, between those who regarded syphilis as the chief cause and those who denied its etiologic importance Gradually the doubters have been silenced, and it is now admitted that a large majority of all cases of paretic dementia and tabes present a syphilitic history Of late, however, we note a tendency to carry this view too far A recent writer asserts that paretic dementia is only a late stage of syphilis of the brain

Another writer argues that all cases of tabes are to be regarded as of syphilitic origin, for he says the proportion of cases claimed to be non-syphilitic has been steadily diminishing for a number of years, and if the present rate is maintained they will soon disappear from published tables Apparently the lameness of this deduction does not occur to the writer but we are forcibly reminded of the humorous logic of MARK TWAIN regarding the shortening of the Mississippi River This stream he said, owing to straightening of the channel, becomes shorter every year, and from known data he estimated that at the end of a few centuries it will be only four miles in length It is only necessary to project the figures a little further to find a time when the stream shall have disappeared

We admit that syphilis plays a most important rôle in the production of tabes and paresis Probably 80 per cent are of luetic origin, but to argue from this fact that they necessarily all are is not only a lame deduction, but it is fraught with most serious consequences Not only may the innocent be branded with a loathsome disorder, but the medicolegal relations of such a doctrine must not be lost sight of Almost all insurance applications have a reference to this disorder and the statements made by applicants are warranties on which the pólicies are issued

We think that medical science is quite as much in need of logicians as it is of experimenters and observers

MEDICAL TEMPERANCE ASSOCIATION

This society formed at Washington in 1891, and composed of members of the AMERICAN MEDICAL ASSOCIATION, appears to be growing into prominence in many unexpected ways Already its influence has been noted in many recent papers on the alcoholic problem, and several foreign journals have referred to a similar English society, and this Association, as the pioneers of this new field of research They have both been very highly commended as scientific efforts to reach some intelligent conceptions of the underlying forces which explain the rôle of alcohol in medicine and as a beverage Both of these societies are composed of members of the British Medical and AMERICAN MEDICAL ASSOCIATIONS, and both are led by eminent men SIR BENJAMIN RICHARDSON is President of the English society and DR N S DAVIS of the American society Each society publishes a journal which presents papers and researches concerning alcohol, in a calm dispassionate way, particularly addressed to physicians

Studies of alcohol, especially from its scientific side, have increased very rapidly within the past few years, and persons who have not followed up this topic will be surprised to find that a bibliography by no means complete, covers several thousand books, pamphlets and articles, of exclusive scientific studies This does not include the half moral, half scientific dogmatic papers and lectures which fill the lay and medical press The defenders of the various theories of old text-books of medicine frequently find themselves belated and need to become acquainted with the results of modern study before they can speak authoritatively

A significant movement, outside of medical circles, to investigate the alcoholic problem has begun by a large number of teachers and college presidents and others of eminence in various parts of the country While it is unusual to find so many very influential and really strong men united to investigate problems of this character, the work of the committees on the physiologic and pathologic aspect of the subject as projected, gives a strong impression of a very limited knowledge of both the subject and the proper methods of study The personal opinions of vast numbers of good men on such a topic are open to so many sources of error as to be practically worthless If this inquiry was made of the sixty thousand physicians in this country, who have both practical and theoretical knowledge of alcohol and its effects, some facts of comparative value would be found

The question of personal opinions on this topic would seem to be a very primitive way of ascertaining facts It is the conclusion of all students that the alcoholic problem is scientific, and one of exact study, not of morals or ethics, and all efforts on the social and moral side will only deepen the confusion and obscurity of the topic The Medical Temperance Association is a movement on the line of exact study, and a protest against theories of any kind that are not sustained by careful investigation and study of all the facts To assume that this or that theory is true, because antiquity and the fathers believed it is not the spirit of modern science nor of modern medicine If any present theories concerning alcohol are true, the evidence is demanded and tested, and if there is no reliable evidence that will bear critical examination, the theory can not be held as true, no matter how widely it has been accepted by all persons However much the new truths may conflict with our previous conceptions or customs of life, they can not be kept down or suppressed The alcoholic problem demands a new study from a wider point of view, and the Medical Temperance Association has the floor If the medical profession had taken up this subject above the currents of prejudice and popular delusions no committee of non-sectarians would ever have had occasion to investigate this problem

The coming meeting of the AMERICAN MEDICAL ASSOCIATION at Baltimore will also bring the fourth anniversary of the Medical Temperance Association, mostly composed of members of our ASSOCIATION, which meets at the same time and place It would seem that the profession should take up this subject more actively and help on the study and work of investigation from every standpoint, so that some facts may be ascertained which all can agree upon as closely approximating the final truths of alcohol and its use

SECTION OF NEUROLOGY AND JURISPRUDENCE

While the promise of great activity and numerous excellent papers and studies are noted in all the Sections at the coming meeting at Baltimore in May, the Neurological Section is making an effort to give an exhaustive review of certain special topics that will be of unusual interest

One of these will be epilepsy, medically, surgically and therapeutically considered The other, hypnotism, its medical, therapeutic and medico-legal relations This will cover the new realm of mental therapeutics in crime relations, and the novel applications of so-called new laws of mind over matter The third topic will be the therapeutic relations of electricity in nervous diseases This will bring out some of the recent resources that have been the subject of some comment The plan of having several distinct symposiums on topics of unusual interest, will be highly appreciated and has become a popular feature of the British Medical Association It brings to the hearer a study of the subject that is very pleasing and suggestive

The officers of the Section, DR D R BROWER, of Chicago, Ill , as chairman, and DR T D CROTHERS, of Hartford, Conn , as secretary, especially desire to call attention to these studies, and invite correspondence with persons who may desire to read papers on these topics, or discuss them from any point of view

NEW MEDICAL PRACTICE ACT

The State of West Virginia is apparently to have a new Medical Practice Act, the House bill for that purpose having been favorably reported by the Judiciary Committee of that body

The bill provides that the State Board of Health shall at such times as a majority shall deem proper, hold examinations for the licensing of practitioners of medicine The bill provides for both written and oral examinations "covering all the essential branches of the sciences of medicine and surgery and the examination shall be a thorough and decisive test of the knowledge and ability of the applicants "

Should any applicant profess a desire to practice according to the " homeopathic" school, then the Board " shall call to their assistance a homeopathic physician duly licensed to practice medicine in this State "

The bill is in the right direction, but in our opinion the words, " practice of medicine" should be clearly defined, so that when cases arise under it there may be no quibble as to the meaning of the statute

CORRESPONDENCE

Treatment of Typhoid Fever

KALAMAZOO, MICH , Jan 25, 1895

To the Editor —By following the suggestions made in an article in the JOURNAL of December 4, by W S Caldwell M D , soliciting correspondence as to the antiseptic treatment of typhoid fever as advocated by Dr John Eliot Woodbridge, I would give a brief outline of the treatment of two cases as stated in a paper which I read before the Kalamazoo Academy of Medicine, Oct 15, 1894, on "The Abortive Treatment of Typhoid Fever " Sept 19, 1894, I was called to see a lad about 10 years of age who lived in the celery region in a low and marshy part of the city , he had been complaining for four or five days previous with headache, backache and general languor I found him with a brownish-gray tongue,

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tympanitis, diarrhea and fever, his temperature ranging from 102 degrees F in the forenoon to 104 degrees F in the afternoon I first gave him large doses of quinin for two days, which did not relieve his condition, but satisfied me that it was not malarial but genuine typhoid fever I began the antiseptic treatment, as recommended by Dr Woodbridge, September 21, the third day after first seeing him, the medicine was given in small doses every thirty minutes I also gave a large dose of turpentine occasionally and used it externally when necessary September 21, when beginning the treatment the morning temperature was 102 degrees F and the evening temperature 104 degrees F September 22, morning temperature 102 degrees F, evening temperature 103 degrees F, September 23, morning temperature 103½, September 24, evening temperature 104 degrees F, September 25, morning temperature 102 degrees F, September 26, evening temperature 103 degrees F, September 27 morning temperature 102 degrees F, September 28 I did not see him, September 29, morning temperature 101 degrees F, September 30, evening temperature 101, October 1, evening temperature was 101½ degrees F, October 3, temperature 100 degrees F In this case the temperature began to vary, gradually, a little for two or three days, and then diminish a little each day after beginning the treatment, and on the eleventh or twelfth day temperature was so near normal and other symptoms so favorable that I considered it safe to dismiss him I saw him about a week after, when he was around the house and had no fever

My next patient was a man about 33 years of age who called at my office in the evening and I found his temperature 104 degrees F He had been feeling quite badly for a few days previous, and said that he was taken with a chill He was suffering from headache, backache and a dull heavy languid feeling I called at the house the next day and treated him symptomatically for a few days, giving large doses of quinin, calomel etc, but soon found that it did not diminish the fever and that his temperature assumed a regular typhoidal character I began the antiseptic treatment September 21 at the same time that I did my other case, and dismissed him on the same day, October 3 After beginning the medicine the temperature went through about the same degree of decline that it did in the first patient with the exception that it was normal October 3, when dismissed

Two or three cases may not be sufficient to establish positive evidence that this treatment is correct, but I can say that it worked better with me in these cases than any plan of treatment which I have followed in typhoid cases since beginning the practice of medicine about twelve years ago I hope to hear from other members of the profession who have tried this treatment

Very respectfully,
FRANK C MYERS, M D

The Bill for the Re-organization of the Personnel of the Navy

To the Editor —Under the pretence of increasing the efficiency of the Navy this bill seeks to humiliate and degrade the staff corps To counteract the enormous increase of pay required for 16 rear admirals (major generals) and 234 commanding officers (to command *fifty* vessels in commission), it proposes to take away from the staff corps some of their pay to help meet these remarkable line changes Why should a doctor's pay be diminished because of any change in the line? His value does not depend upon the line The market value of doctors does not depend upon the supply of ensigns They come from civil life and their pay should be fixed at what good men of their profession are worth They have educated themselves and no staff officer can ever reach the ultimate high pay of the line, or hope for the remarkable promotion provided for the line, by this bill A writer in the *Brooklyn Eagle* forcibly states the case

"This bill degrades the staff officers and makes them the servants of a selected part of the line No such firebrand has been cast at the Navy since 1865 It is a mistake to think it is wanted by the service at large *It is opposed by 90 per cent of the line above the grade of lieutenant* commander and by every member of the Medical Pay and Engineer Corps These corps are absolutely essential to the efficiency of the Naval Service Can this bill increase the efficiency of the personnel of the Navy *if it makes it impossible to secure a competent medical department* and places the lives of officers and men in peace and war at the mercy of incompetent men? Can it promote naval efficiency to deride the authority of the engineer officer over his men in the management and care of the complicated and powerful engines of our new ships? Can it promote naval efficiency to place a medical officer so that he can not conduct properly a hospital in which he has line officers staff officers and *enlisted men as patients? With one accord all the staff officers repu*diate the ghost of positive rank offered by this bill There is indeed no positive rank conferred, for it is offered in one section and taken away in others Why should not a medical officer have military command in a naval hospital or in his own department on a ship? Why should not an engineer officer have military command over men around the boilers and engines of a ship? Why should not medical pay and engineer officers have military command in their own departments at all times and exercise it under the commanding officer whatever may be his rank as do all other officers, even the youngest ensign in charge of a gun? How are they to control the men under them if they have no authority by virtue of their orders and commissions? Can a bill which denies this authority and which makes the staff officer regard the words on his commission as satirical, promote efficiency in the Navy? It is a mistake to suppose that this bill is in the interests of harmony and good feeling in the service or that it will definitely settle the controversies which now exist So far from it it is a bill productive of discord, discontent *and bad feeling* It will with its reserve list and treatment of the staff corps cause numbers of dissatisfied officers and in place of harmony and efficiency it will cause more discord and trouble than the Navy has ever known It is a mistake to think that staff officers want military *rank for any general command They want military command in their* own departments only and under the commanding officer as are all other officers A similar provision has existed many years in the Army, where discipline is jealously guarded The staff corps desire simply the Army law, and that is all they ask for *They are commissioned officers* and are not any more insubordinate and unworthy of trust than other commissioned officers

"Aside from this the other main features of this bill affecting the staff corps are most unjust and seem to reflect the same desire to destroy their efficiency There are five grades now in each of the three staff corps mentioned This bill makes six and thus divides each corps into smaller fragments It thus fixes a smaller number of men who can have any given rank at the same time The middle grade in each corps *is divided* the upper fragment only being given the higher rank This whole grade once had the higher rank, but now has two ranks owing to stagnation in the line For some years now the rank of the majority of the members of the Medical Pay and Engineer Corps has depended *upon promotion in the line each of these staff officers* taking his rank within grades in accordance with a certain line officer with whom he has had to keep pace Stagnation in the line has made stagnation of rank in the staff, and now this bill rapidly advances the one and holds back the other *It does this not only by dividing the staff corps into a* greater number of grades but now that they would be benefited in rank by the rapid line promotion provided for in this bill if the present system were retained a new system is most conveniently adopted under which the relation in *rank between line and staff now existing is abol*ished, and the staff corps made to retain much of the damage in rank they have sustained The division of the staff corps into a greater number of grades is one of the most unjust things in this bill It is designed for the purpose of depriving *forever the staff corps of the rank they once* had and which should be restored to them by this bill—a bill which examination clearly shows is designed to exalt simply the younger portion of the line and to pull down humiliate and make servants of most of the other commissioned officers of the service

"A further examination only makes this spirit still more apparent It has been shown that this bill provides 234 commanding officers for less than fifty ships of war No ship can have more than one commanding officer but many must have more than one doctor and one engineer A ship having a complement of 300 400 or 500 men goes into battle with one commanding officer If he falls the next line officer takes his place It would be inhuman and absurd to send such a vessel to sea in peace or war with one surgeon or one engineer Even in peace the sickness or death of such men would find no one to take their place Epidemics on board at sea would find men dying for want of assistance In war a recent experience has shown how many wounded a few minutes' fight at sea produces Can one surgeon give the necessary aid? Why, everybody knows that many common surgical operations are never undertaken without several assistants Can one surgeon do what humanity requires? And suppose the surgeon falls in battle who is to take his place? No one can if he is acting alone It is absurd to say that he can not fall in battle, that he is down below safe from shot and shell In the recent *naval battle* between the Japanese and Chinese the former lost ten commissioned officers, killed outright and two of these were doctors—*20 per cent* It is absurd to call any man a non combatant in these days on a ship of war Most of our ships being of the cruiser class are easily pierced and perhaps no men occupy a more dangerous position in battle than the engineer force What would a shot into a boiler or steam pipe mean? Death from scalding to a number of men—who like men in reserve are liable to suffer at any time and yet are not in the heat of the fight This was the history of our war and this will be the history that will be repeated Beside who is to be depended upon when the whole ship itself is to be used as a projectile, and her steel prow pushed into the hull of her adversary? Is not this making the Engineer Corps combatants, and should not the engineer officer have military command over his men at such a time? Who holds the throttle and who gives the ship her speed through the water and are most liable to suffer from the shock? It is absurd to think of only one engineer for the many complicated engines on a modern man of war Now make the comparison in this bill between the number in line and staff Two hundred and thirty four line officers to command fifty or sixty ships with one commanding officer to each ship! How many doctors? One hundred and sixty five when two or more are required on many ships and the hospitals on shore require staffs How many engineers? One hundred and ninety, when several are required on nearly every ship How many paymasters? Ninety six for all purposes Does not this comparison show the line strength in this bill, in which in spite of a number of commanding officers now that can not be utilized, there is an increase of 30, nearly as many as there are ships and the medical corps is reduced five numbers—from 170 to 165 Two hundred and thirty four commanding officers and 165 doctors, 190 engineers and 96 paymasters Is not this an absurdity? Is not this a line bill and a malicious expensive one at that?

'Examine still other provisions and the unfairness of this bill becomes yet more apparent In Section 12 it is arranged that there shall be at least twenty numbers made each year in all grades below lieutenant commander Now as there are seventy five lieutenants of the junior grade provided, an officer must pass through that grade at the most in a little over three and a half years and will do so in less time Now examine the staff corps A man in any one of these corps must of course wait for vacancies above him in his own corps before he can be promoted In the Medical Corps, there are forty lieutenants of the junior grade provided in a corps with 165 members, nearly one fourth of the whole corps As during the last twelve years, there have been four numbers made each year, it will take a medical officer ten years to pass through this grade Less than *three and a half years in the line* and *ten years in the Medical Corps* This is, indeed, a line bill with a vengeance! In the Engineer Corps it will take five or six years to pass through this grade and in the Pay Corps seven years The unfairness of this is very apparent The result of this will be that young men in the line will have great rank, while in the staff a man will carry his gray hairs around, even in the lower grades

'Even in this treatment of the staff corps mentioned there is a curious lack of consistency In Section 25 it will be seen that in the Medical Corps of 165 members 30 are allowed with the rank of lieutenant commander In Section 33 it will be seen that in the Pay Corps of ninety six members the same number of lieutenant commanders is allowed In one case less than a fifth, and in the other nearly a third A strange and curious inconsistency The number of this rank in the Medical Corps should for every reason be fifty That is the number of the surgeon's grade now for which the title, staff surgeon is substituted They were all with the relative rank of lieutenant commander a few years ago, but are now divided in rank simply by line stagnation, and will be forever divided by this bill

'Furthermore, this bill provides for a criminal result so far as the Medical Corps is concerned The Medical Corps gets competent men now with great difficulty, and from lack of inducements offered has not had its complement since 1865 What will be the state of that corps under this bill? Every diminution in inducement means a lowering of standard for admission, and under the inducements offered by this bill this standard will necessarily have to be placed so low that the lives of officers and men will be placed in the hands of incompetent persons Equalization of the rank and pay of the Medical Corps of the Navy should not be made with the line of the Navy, but rather with the Medical Corps of the Army The market value of a doctor does not depend upon the supply of ensigns and has no relation to the Naval Academy It depends upon the condition in civil life and upon inducements offered by the other public services, such as the Army and Marine Hospital service Vacancies in those services for which there are not suitable men is unknown In the Army, assistant surgeons have the rank, pay and emoluments of a first lieutenant of cavalry for the first five years' service—pay alone $1,600—and the rank, pay and emoluments of the grade of captain after five years' service—pay alone $2,000 (Section 4, act June 23, 1874)

'At the upper end of the corps is one brigadier general Colonels in the Medical Corps receive $4,500 on the active list and $3,375 on the retired list This bill proposes for the Navy that an assistant surgeon shall enter with the rank of second lieutenant (Army), with his highest pay $1,200 He will be behind the Army man in his promotion and at the end, after many years his highest shore duty pay will be $3 500 The Army ranks are generally full, but the rewards of service are none too great and there is not much struggling for appointment It is, therefore, a great mistake to suppose that competent assistant surgeons can be obtained for the Navy at $1,200 at sea and the rank of ensign The result will be an incompetent corps The efficiency of the Navy can not be promoted by destroying or weakening its medical service

'From every direction the truth of the proposition becomes evident that Congress may improve the pay and position of the line officer, but it can not do so at the expense of the staff without injustice This injustice would lower the efficiency of the service and make discord and discontent —AN OFFICER OF THE NAVY

Castration for Prostatic Hypertrophy

Dr Ricketts to Prof J William White

CINCINNATI, OHIO, Jan 23, 1895

My Very Dear Doctor —I received your letter recently concerning the removal of testes for hypertrophied prostate Since that time I have kept informed upon all things pertaining to this new work, so far as I have been able

The following communication was just received from the physician who has charge of the patient whose testes I removed on Oct 26, 1894

Jan 22, 1895

"*Dear Doctor* —The patient whose testes you removed on Oct 26 1894, for hypertrophied prostate, has no obstruction, straining or severe pain, which he formerly had while urinating He passes water still too freely, and complains of burning and itching after micturition

"I would say that he is well and doing nicely

Very fraternally, L M GREEN"

Thus you see that the results in this case verify those of the others that have been reported

I am thoroughly satisfied that this operation is one that, sooner or later, will become generally adopted for the relief of hypertrophied prostate

I am also satisfied that to you belongs the credit for fir suggesting it, surely for doing the experimental work nece sary to establish the facts concerning it

You may use this letter in any way you deem proper

I am, very truly, MERRILL RICKETTS, M D

Dr J Wm White, Philadelphia

BOOK NOTICES

Laboratory Guide for the Bacteriologist By LANGDON FROTHINGHAM, M D V Illustrated Philadelphia W B Saunders 1895 Price 75 cents

This is an excellent companion for the laboratory tab Several methods of bacteriologic examination are mention here that are not in common use, and some of them will sa much time over former methods

Syllabus of Gynecology, based on the American Text Book Gynecology By J W LONG, M D Philadelphia W Saunders 1894 Price, $1

This syllabus seems to be a complete syllabus of the top set forth in the "American Text-Book of Gynecology" it intended also to be used as lecture notes The work is the same style as Senn's "Syllabus of Surgery"

The Twelfth Annual Report of the State Board of Health Indiana for the Year 1893

This report, besides giving an official account of the sa tary work of the year, describes in detail the progress of t smallpox epidemic at Muncie and the measures taken prevent its spread Cuts and descriptions of the hospit built for the reception of smallpox patients are given, a the volume concludes with a list of the physicians of t State

The Retrospect of Medicine, a Half-yearly Journal contain a Retrospective View of every Discovery and practical I provement in Medical Science Edited by JAMES BRAITWAITE, M D, Lond Vol CX July-December, 1894 (Issu January, 1895) London Simpkin, Marshall, Hamilto Kent & Co Ltd Pp 438 Cloth

The title sets forth fully what Dr Braithwaite assumes accomplish While the work is a valuable one, for the a stracts it gives are always interesting and instructive, it is f from complete, nor could a work give a complete abstract the discoveries and improvements in medical science with the limits of 400 pages, and it is painfully apparent that t venerable editor draws from an extremely limited exchan list for a journal with such ambitious professions

Notes on the Newer Remedies, Their Therapeutic Applicatio and Modes of Administration By DAVID CERNA, M Ph D Second Edition, Enlarged and Revised Pp 253 Philadelphia W B Saunders 1895 Price, $1 25

This little book, which is dedicated to Prof Horatio C Woo of Philadelphia, has a great field of usefulness The new remedies are described by the medical press as they are ported, from time to time, and occasionally mentioned case reports, but the author has here gathered them togeth in one volume, and briefly given a definition, an account the physical properties, solubility, physiologic action, ther peutic application and dosage of each We are pleased note that the decimal system of dosage has been employe In most cases both the British and the metric dose is give The volume is a useful one and should have a lar distribution

Medico-Chirurgical Transactions Published by the Royal Me ical and Chirurgical Society of London Vol LXXVII Lo don Longmans, Green & Co 1884

This volume, one of the most interesting of its series, co tains besides the usual lists, and proceedings, twenty pape as follows

1, Diseases of many Joints probably of Syphilitic Orig by Anthony Bowlby, ii, A Case of "False" Disseminated Sclerosis due to Measles with Remarks on the Occurrence of certain widespread Nervous Disorders after This and other Infectious Diseases, by Dawson Williams, iii, On Disseminated Fibrosis of the Kidney, by W Ainslie Hollis, iv, Arthrectomy of Elbow and Ankle by H H Clutton, v, On Albuminuric Ulceration of the Bowels, by Howship Dickinson vi, Abdominal Section for Intestinal Obstruction due to Hydatids, by J Hutchinson vii, On the So called Spontaneous Disappearance of Solid Abdominal Tumors, Three Cases, by J Greig Smith, viii, Nerve Stretching and Splitting, by Kenneth McLeod, ix, Two Cases of Intussusception of Large Intestine reduced by Introduction of the Hand into the Rectum, by Thomas Bryant, x Case of Pleurisy caused by Pneumococcus, by J W Washbourne, xi, Ruptured Gastric Ulcer, Laparotomy, Recovery, by Thomas H Morse, xii, Case of Resection and Immediate Suture of Intestine which had been Strangulated Eighty-one Hours, Recovery, by C B Lockwood, xiii, Persistence of the Thyreoglossal Duct, by H E Durham, xiv, Case of Extra peritoneal Vesical Hernia, by Ernst Michels, xv, An Operation for the Cure of Cleft of hard and soft Palate, by N Davies-Colley, xvi, Case of extreme Prolapse of Female Urethra in a Child aged 6, by Thomas Bryant, xvii, Two Cases of Uretero-lithotomy by Edward Cotterell, xviii Influence of different Soils on the Comma and Typhoid Organisms, by R Dempster, xix, Review of Cases manifesting Pain at the Heart or morbid Acceleration of Heart's Contraction subsequent to Influenza, by A E Lanson, xx, Case of Acanthosis Nigricans, by Malcolm Morris Rarely has any volume of transactions contained so interesting a series of papers

SELECTIONS

Sublimophenol —By bringing together equal molecules of mercuric chlorid and potassium carbolate and gently heating the solution, a brick red precipitate, which passes through yellow to white, forms consisting of a mixed chlorid and carbolate of mercury This has been termed sublimophenol Washed, dried, and dissolved in boiling alcohol it forms, on cooling, colorless crystals —*Western Druggist*

Delicate Reaction for Morphin —Lama describes (*Apoth Zeit*) the following reaction as detecting 0 000005 gram of morphin A few drops of the solution are placed in a porcelain capsule, with an equal quantity of uranium acetate solution (0 03 gram uranium acetate and 0 02 gram sodium acetate in 10 cc) A brilliant red color results at once Oxymorphin gives the reaction as well as morphin —*Western Druggist*

Toluol Iron Mixture for Diphtheria —Loeffler reports brilliant results (*Deut Med Woch*) from the topical application in diphtheria of ferric chlorid and toluol He publishes the following formulas 1, dissolve 10 0 g of menthol in sufficient toluol to make 36 0 cc then add 60 0 cc of absolute alcohol and 4 0 cc of solution of ferric chlorid, 2, menthol 10 0 g, toluol to make 36 0 cc, absolute alcohol 62 0 cc, creolin 2 0 cc The second formula is a substitute for the iron mixture Menthol is added to reduce the pain A small wad of cotton is saturated with the mixture and pressed firmly against the membranous plaques, repeating every three or four hours The false membranes begin to soften and will soon separate in large patches —*Western Druggist*

Tellurium in Bismuth Salts —P Janzen calls attention (*Apoth Zeit*) to the frequent presence of tellurium in bismuth salts, which, with Bettendorff's test for arsenic, may lead to erroneous conclusions While the possible presence of tellurium or selenium is well understood, yet not one Pharmacopœia has introduced tests for their detection Commenting on Perleberg's communication the *Pharmaceutische Rundschau* reminds its readers that the alliaceous bismuth breath is referred to, and ascribed to arsenic or tellurium by Hansen in Liebig and Woehler's "Annalen" for 1853, by Woehler and Gmelin before that date, in Blyth's "Chemistry" of 1879, by Squibb in "Ephemeris" for 1883, and others While it is not known that the presence of minimal quantities of tellurium is injurious, the writer of this knows from experience that it is decidedly unpleasant, since for years he has been accused by acquaintances of having indulged in the strong-flavored garlic every time he had taken bismuth subnitrate for longer than one day —*Western Druggist*

PUBLIC HEALTH

New York City Board of Health —A New York paper, the *Sun*, calls attention to the peculiar formation of the Board of Health of that city—peculiar in that, unlike the other municipal departments, three of the four Commissioners are chosen, not as Commissioners solely of the Board which they help to compose, but because they also hold other positions The Board consists of four members, one, a civilian, the President, is appointed as other municipal Commissioners are, by the Mayor The first of his colleagues is the Health Officer of the Port, who is appointed by the Governor of the State, with the assent of the State Senate The next of his associates is the President of the Board of Police Commissioners In his case the appointive power is the Police Board Thus one of the Commissioners takes his appointment from the Mayor, one from the Governor, and the third from the Police Board There is still a fourth member of the Board of Health appointed by the Mayor, but subject to the limitation that he must be a practicing physician In effect, there are two physicians and two laymen in the Board Another peculiarity about the Board of Health is the fact that only two of its four members receive any salary as such, and that the two who are paid get different salaries, one (the civilian) receiving $5,000, the other (the physician) getting $4,000

Does Disinfection Disinfect?—After a series of experiments with a 2 per cent solution of the mercuric chlorid, M Laveran concludes that disinfection by spraying, as frequently performed, does not suffice to destroy infectious germs In presenting the results of his experiments to the Paris Academy of Medicine he urged that the walls of an infected room should be treated as a surgeon treats his hands before an operation That is to say, they must first be washed with soap and then with an antiseptic solution, and he recommends the successive use of a 5 per cent solution of carbolic acid and a 2 per 1,000 solution of sublimate In order to make this form of disinfection practicable, all rooms exposed to frequent infection—hospitals, barracks, hotels, asylums and workshops—should be made with impermeable walls M Dujardin-Beaumetz replied to M Laveran by recalling the very reassuring fact that during the two years in which the public service of disinfection had been working in Paris, local house epidemics have all been promptly checked This practical test is sustained by the experience of sanitarians in this country where the methods of disinfection in the large cities are substantially the same as in Paris and where results are obtained which are certainly as Dujardin-Beametz says, "very reassuring"

The Typhoid Oyster —That veteran sanitarian, Secretary Lindsley, of the Connecticut State Board of Health, must derive no little amusement from the promptness with which his discovery of an etiologic relation between typhoid fever and the oyster has been followed up by his British colleagues in public hygiene Sir William Broadbent, Sir Peter Eade and a host of others of lesser note are flooding the English journals with instances of oyster-typhoid, suggestions of remedy and of protection of "our succulent friend from deleterious contamination," etc And now comes Sir Charles A Cameron, Medical Officer of Health for Dublin, with a claim of priority of discovery It appears that some fifteen years ago Sir Charles read a paper on "Typhoid from Oysters," which "seemed to amuse but not to instruct" his hearers, since then, he says, the "possibility of the *materies morbi* of enteric fever and of other diseases gaining access to oysters has frequently been discussed, and I have published the cases of a large number of persons who were undoubtedly subjected to severe gastro enteritis as the result of eating oysters which were undoubtedly fresh" At best, however, Sir Charles and the other titled and untitled gentlemen have only shown that, because oysters were found in sewage and sewage in oysters, and because the typhoid poison is sometimes found in sewage, therefore the oyster might be the vehicle for conveying the poison to the small intestines of its host But they have failed to show that what might happen really did happen in any specific instance It remained for our own Dr Lindsley to demonstrate such an occurrence in the case of the Wesleyan College students

Contagious Diseases —The general death rate for the month just closed has been swollen by the mortality from phthisis, pneumonia and bronchitis, the usual seasonal prevalence and mortality of which have been materially increased by the remarkable and sudden variations of temperature which have occurred in almost all sections of the country Aside from this the general morbility of the month presents no unusual features The incidence of the contagious diseases remains about stationary, except as to smallpox, which, considered as an epidemic, seems to have passed its culmination The largest number of cases of this disease is reported in Chicago, where there were 183 new cases up to the 30th ult, and a total of 268 treated—including 84 remaining in hospital at midnight Dec 31, 1894 Of this number 98 were discharged, recovered 42 died, 127 remaining, mortality rate 15 6 per cent In the State at large Dr J W Scott, Secretary of the Illinois State Board of Health, reports cases at and near Byron, Ogle County, at Sycamore, DeKalb County, at Harper, Ogle County and at Desplaines and Kirkland, Cook County Dr Wingate, Secretary of the Wisconsin State Board of Health reports, for the week ended January 26, six cases, no deaths, at Appleton (confined to two houses and under control), two cases, one death at Two Rivers, five cases, one death in Gibson Township, five five cases, two deaths at Mishicott, one case, no death at Manitowoc Rapids, one case no death in Franklin Tp, six cases, five deaths in Milwaukee Total number of cases on hand in Milwaukee, fifty-four, in hospitals sixteen, in homes, thirty eight The Journal is unable to learn the exact status of the disease in Detroit A newspaper dispatch of the 26th ult, reports some sixty cases on hand two thirds being treated at homes It was also stated that Dr McLeod, the Health Commissioner, has tendered his resignation to take effect on the 15th prox, that the position had been tendered to Dr G W Stoner, U S M H S, who had declined, whereupon it was offered to Dr W H H Hutton, U S M H S, who had accepted, subject to the approval of the Supervising Surgeon General of the Service Influenza is slowly increasing the area of its invasion, but, except in New York City, has thus far exerted no marked effect upon the death rate except as it may have increased the mortality from pneumonia when it occurs as a complication of this latter disease There have been, however, a number of "sudden deaths—cause not rated" among middle-aged and elderly persons who were afflicted with the disease two or three years ago

SOCIETY NEWS

King County (Seattle, Wash) Medical Society has elected the following officers for the coming year President, L R Dawson, Vice-President, W T Sloan, Secretary, F B Whiting, Treasurer, Geo M Horton

Hampden District Medical Society —The quarterly meeting of the Hampden District Medical Society was held in Springfield, Mass, January 15

Brainard District Medical Society —The quarterly meeting of the Brainard District Medical Society was held in Jacksonville, Ill, January 24

How It Looks to the Lay Press —At the meeting of the Tri-State Medical Association, at Atlanta, last October, Dr B read a very interesting and instructive paper, and he received requests from six of the leading medical journals of the United States to publish the same The request was granted to the *International Journal of Surgery*, of New York and he was complimented with 250 copies of a reprint, which is an unusual distinction accorded physicians The article appears in the December number of the above journal —*Chattanooga Times*, Jan 20, 1895

Cleveland Medical Society —The Cleveland Medical Society held its annual election at its quarters in the Chamber of Commerce rooms on Friday evening, Jan 11, 1895 The following officers were elected, President, Wm E Wirt, First Vice President, Aug F House, Second Vice-President, H S Upson, Recording Secretary, W F Brokaw, Corresponding Secretary, F S Clark, Treasurer, N Stone Scott, Librarian, Wm E Bruner, Censors, M Rosenwasser, H S, Straight, L B Tuckerman, A J Cook, W J Scott, Pathologist, A P Ohlmacher, Trustees, H G Sherman, Chas Gentsch, C F Dutton

Immediately after the election the Society adjourned to the Hollenden Hotel where the annual banquet was held The retiring President, Dr W H Humiston, stated in his address that the Society has 291 members, that the average attendance for the year was 135, being in this regard second to no society of its kind in the United States, as shown by reports he had received from other societies The Society meets every two weeks

NECROLOGY

Alfred L Loomis, M D, of New York, Jan 23, 1895 Professor Loomis had been ill since Sunday with acute pneumonia Was born in Bennington, Vt, 63 years ago, and was graduated from Union College in 1851 and from the College of Physicians and Surgeons in 1853 After his final graduation he served for two years as a member of the medical staff of the Ward's and Blackwell Islands hospitals Then he engaged in private practice and soon became a recognized authority on pulmonary diseases He became the visiting surgeon at several hospitals and public institutions From 1862 to 1865, inclusive, he was a lecturer in the College of Physicians and Surgeons, after which he was made Professor in Medicine of the University of the City of New York In 1867 he was made a Professor of Pathology of the same institution Through an admirer he was placed in charge of a fund of $100,000 with which to build a laboratory in the same university, to be named after himself

Dr Loomis became a member of many medical societies and associations, and at his death he held a number of honorary degrees which had been conferred upon him He was the author of a number of medical works, and may be said to have been one of the most popular physicians in the great city

Dr Loomis was twice married Two children and a widow survive him The funeral was held at the Church of the Incarnation at Madison Avenue and 35th Street, on Saturday, January 26

John Young McGay, M D, died Oct 12, 1894, aged 40 years He was a native of New York City, the son of Mr

Robert T McGay He was educated in that city, taking his medical diploma in 1880, at the Medical Department of the New York University At the time of his decease he was temporarily residing at Lisbon Centre St Lawrence County N Y His fatal malady was chronic nephritis

Fountain N Taliaferro, M D , of Hicksville, Long Island died January 16, aged 34 years His death took place at Aiken, S C , to which place he had gone several weeks ago for the benefit of his shattered health Dr Taliaferro was a native of Virginia but he had been a resident of New York since the time of his graduation in medicine, which was from the University of New York, in the class of 1889 He was health officer of his township for one term, and had built up a very desirable practice

E F Shorb, M D , of Laurel, Md , January 15, aged 69 ——Wm Wood, M D , of Grand Rapids, Mich , January 14, aged 56 ——G W Topping, M D , of De Witt, Mich , January, 14, aged 67 ——T W Hicks, M D ,of Orlando, Fla , January 14 ——Mary W Noxin, of New York, January 16, aged 40 ——W A Mc Cully, of Independence, Kansas, January 22 ——Francis C Neale, of New York, formerly of Baltimore, Md , January 17, aged 60 ——John Powell, M D , of Pennsylvania in Zacatecas, Mexico, January 28 ——Robt Lee Long M D , Mexia, Texas, January 20 ——Henry A Archer M D , at Meriden, Conn , January 20 aged 74 ——W O Kulp, M D , Davenport, Iowa, January 12, aged 59 ——J E White, M D Toronto, aged 47 ——Geo C Pease M D , Kalamazoo Mich , January 25, aged 50 ——Jas Strong, M D , Cleveland January 29 ——M T Trovinger, M D , Hornelltown, Ohio, January 23, aged 35

MISCELLANY

Wisconsin State Board of Health —At the annual meeting of the Wisconsin State Board of Health, Dr J W Hancock, of Ellsworth, was elected President for the ensuing year

Dr E E Hegg, of North Yakima, Wash , has been appointed a member of the Washington State Board of Health and Bureau of Vital Statistics

Dr R. S Bragg, of New Whatcom, Wash , died January 21 from rheumatism of the heart He was one of the leading physicians of his county, an ex President of the County Medical Society, prominent in Masonic and Odd Fellow circles, and a director in one of the city banks

Can Not be Sent by Mail —Bacteriologists and pathologists should take notice that by the new postal regulations, "disease germs and matters from diseased persons" are unmailable matter, and can not in the United States be sent by post

Charbon in Sicily and Sardinia —The malignant pustule rages with persistence in Sicily and Sardinia From January to October, 1894, there were sixty six cases of charbon in the province of Palermo Experiments are being made in Italy to popularize anti charbonous vaccinations and vaccinations on a large scale in the contaminated countries —*Gazette Medicale de Liege*

The Quarter Century Medical Club, for social, biographical and historical purposes, was organized in Detroit, Mich , January 15 The qualifications for membership are twenty five years' practice in Detroit and good standing in the profession The following officers were elected President, Peter Klein, M D , Vice President, E W Jenks , Treasurer, Hamilton E Smith , Secretary, J J Mulheron

A Bengalese Superstition —A paper, read before the Anthropological Society of Bombay, contains a long list of senseless superstitions that thrive in the Hindoo mind There is one of them that has sufficient interest to quote before a medical audience, namely "Do not wake up a sleeping physician " Comment is hardly necessary, but the saying will inevitably call to mind the Anglo-Saxon adage about "letting the sleeping dog lie " The parallelism does not speak well for the popular esteem of the native Hindoo physician

Cologne Tippling —According to *L'Union Medicale* this habit is increasing Alcoholics, especially women, begin by taking a few drops of *eau de cologne* and finally drink it by the glass The writer seems to think this form of alcoholism may replace or cure the cocain and morphin habits The habit is exceedingly injurious, for in addition to the poorly rectified alcohols are the natural or artificial essential oils which are equally toxic The practice is found among the upper classes principally

Extirpation of the Stomach of a Cat —At a recent meeting of the Paris Biological Society reported in the *Gazette Medicale de Paris*, M M Parchon and Carvallo exhibited a cat from which they had removed the stomach, and they detailed the results of the operation The general nutrition was normal, the three species of foods—albuminoids, carbo hydrate and fats were well digested, the digestion of milk, however, was faulty The animal thrived best on a pap of milk, rice flour and yolk of an egg Croked meat was perfectly digested, raw *meat imperfectly Professor Dasht observed that* we know the gastric juice produces changes in meat similar to those from cooking

Dr Daniel Lewis —Dr Daniel Lewis, of New York City, has been nominated by Governor Morton to be a member of the State Board of Health Dr Lewis was born in Allegany County, New York, Jan 17, 1846 He studied at the Alfred University, after serving in the Navy throughout the Civil War Graduating in 1869, he studied medicine in the New York College of Physicians and Surgeons, taking his degree in 1871 When the New York Skin and Cancer Hospital was established, Dr Lewis was appointed to a junior position on its staff of which he is now the head He also occupies the chair of Special Surgery in the Post Graduate Medical School Dr Lewis was elected President of the County Medical Society in 1884 and reëlected a year later He was elected President of the State Medical Society in 1889

May Give Opinions as to Cause of Disease —The rule is well established that an expert witness, in giving his opinion, must first state all the facts upon which he bases his opinion But after a physician has testified fully as to examinations he has made of a patient, the condition in which he found the latter, detailing also to the jury what he learned from the patient, the Appellate Court of Indiana, in Louisville N A & C R'y Co v Holsapple, a case decided Nov 22, 1894, holds that the witness may give his opinion of the cause of the patient's maladies, as for example what caused an unnatural growth in her womb So also does the court hold that where a medical expert has testified fully as to the examinations made by him, he may state whether, in his opinion, the injuries as he found them are temporary or permanent

Treatment of Gonorrhea —Dr H M Christian (*Therapeutic Gazette*) claims that irrigation of the urethra with potassium permanganate, 1 to 4,000, doubled in strength the second week, is the best remedy for simple non-infectious urethritis The irrigations are made daily with about one quart of a warm—not hot—solution, the patient standing and the reservoir at a height of six feet A cure can be effected in from ten to twelve days This can not be solely relied on for a specific urethritis, but to a certain point he considers irrigation the proper treatment—relieving *ardor urinæ* and chordee promptly and largely preventing such complications as total urethritis and epididymitis

The Andrometer of Sir William Jones —

Age	
1	Ideas received through the senses
	Speaking and pronunciation
	Letters and spelling
	Ideas retained in the memory
5	Reading and repeating
	Grammar of his own language
	Memory exercised
	Moral and religious lessons
	Natural history and experiments
10	Dancing music drawing exercises
	History of his own country
	Latin
	Greek
	French and Italian
15	Translations
	Composition in prose and verse
	Rhetoric and declamation
	History and law
	Logic and mathematics
20	Rhetorical exercises
	Philosophy and politics
	Composition in his own language
	Declamations continued
	Ancient orators studied
25	Travel and conversation
	Speeches at the bar or in parliament
	State affairs
	Historical studies continued
	Law and eloquence
30	Public life
	Private and social virtues
	Habits of eloquence improved
	Philosophy resumed at leisure
	Orations published
35	Exertions in State and parliament
	Civil knowledge mature
	Eloquence perfect
	National rights defended
	The learned protected
40	The virtuous assisted
	Compositions published
	Science improved
	Parliamentary affairs
	Laws enacted and supported
45	Fine arts patronized
	Government of his family
	Education of his children
	Vigilance as a magistrate,
	Firmness as a patriot
50	Virtue as a citizen
	Historical works
	Oratorical works
	Philosophical works
	Political works
55	Mathematical works
	Continuation of former pursuits
60	
	Fruits of his labor enjoyed
	A glorious retirement
	An amiable family
	Universal respect
65	Consciousness of a virtuous life
	Perfection of earthly happiness
70	
	Preparation for eternity

The foregoing was the plan of Sir William Jones for the life of an English gentleman With some variations it may be taken for any gentleman of another profession than that of law

Skin Diseases in the German Army —In one year, according to Antony (*Arch Med Milit*) there were 89,845 cases of skin disease in the German Army—or 214 5 per 1,000 of total strength, 2,000 of these were scabies In November, when the new recruits arrive, the cases of scabies increase markedly The use of corrosive sublimate solution often causes the appearance of eczema At Wiesbaden a case of general psoriasis was observed as the sequel of scarlatina The use of one tenth chrysarobin ointment is an excellent remedy for psoriasis, but symptoms of intoxication sometimes follow, these symptoms are usually gastric catarrh, rapid emaciation, ocular catarrh and coloring the hair white or red A total of 23 565 men were treated for phlegmons and excoriations and 31,029 for furuncles The treatment of furuncles with interstitial injections of carbolic solution—1 to 100—gave very variable results, as the result of numerous observations it is found that this mode of treatment is indicated when the furuncle has fully developed, but before pus has formed, unfortunately, the injection is extremely painful Whitlow afflicted 10,387 soldiers, and two cases of pyemia and one of abscess of the thigh resulted

Strontium Salicylate —Dr H C Wood, in common, as he supposes, with most practitioners, has for many years been trying to find some way of getting the general action of salicylic acid without the gastric disturbance which so often follows the exhibition of its salts of sodium and potassium In the current number of the *University Medical Magazine* he describes a salicylate of strontium which he has had prepared and employed in a large number of cases in quantities of from 15 to 120 grains a day In doses of 5 to 10 grains, given after meals, the salt very commonly improves digestion and in the dose of 5 grains an hour after meals in flatulent dyspepsia and various conditions of tendency to fermentative changes in the alimentary canal, it is a useful intestinal antiseptic, seeming to him to give better results than do salol, naphthol or other of the older antiseptic remedies It has not yet been tested in acute articular rheumatism and Dr Wood thinks it would probably be less efficacious in this disease than the ammonium salicylate, but in muscular or subacute rheumatism with a tendency to digestive disturbance he has found it a very valuable remedy, exerting the action of the salicylates upon the diathesis and improving instead of injuring the digestion It may be given in solution, but is best administered in 5 grain capsules In his preliminary experiments on the lower animals, undertaken to determine the influence of this salt on the circulation, Dr Wood found that the dose of the strontium salicylate necessary to lower arterial pressure was nearly twice that of the sodium salicylate and distinctly more than that of the ammonium salicylate

Life Maintaining Dietary in Central Africa.—Lieutenant Lemaire, an officer of the Congo Free State, has written in the *Independence Belge*, on the improved health of foreigners dwelling above Stanley Pool, that has followed the larger use of the fresh vegetable products of the country These vegetables are sufficiently varied, but they are so different from the accustomed food of Europeans and Americans that they do not at once find a welcome to their table But they are soon found to be much more conducive to health than the imported canned goods that can seldom be made to "keep" properly under the African tropics M Lemaire remarks upon the low rate of mortality among the whites upon the Upper River as it is called, he seeks to explain the good health of certain of the missionaries as due in part to a plentiful amount of physical exercise, and in part to their adopting the food supplies that are native to the region He says "We have never seen an excess of manual labor bring on fever or any sort of indisposition During my stay at the equator, from December, 1890, to June 19, 1893, not one of the white *personnel* of the station died, save a Danish mechanic who came to us only to take his bed The best illustration that I can give is that of the American Protestant Mission carried on by the Rev Charles Blair Banks and his wife, who have lived there seven years, and have had three children born there who are surprisingly healthy The result is due to the fact that Mr Banks, having built a charming cottage in the midst of a real park, has used the resources of the country for the larger part of his food supply—fresh vegetables from his garden, instead of canned peas, and, in general, fresh poultry and mutton instead of preserved meats—fresh goat and sheep milk instead of condensed milk, and the abundant fruits of the country instead of canned preserves "

Uniformity in Medico Military Statistics —The International Commission of Military-Medical Officers for uniform sanitary statistics which met at Buda-Pesth in September last, Dr John S Billings, U S Army, chairman, came to an agreement as to the character of the statistics to be published for comparative purposes by each of the countries participating

ms of quinin to administer for the prophylaxis
As to form Solutions of the salts of quinia reserved for active attacks, compressed prepara-ondemned, preference is given to pills made up ble excipient or to *perles* provided with a gelatin-pe The basic hydrochlorate is pronounced the ylactic salt—richest in alkaloid, sufficiently sol-irritant to the stomach than the sulphate The ate may be substituted where there is intolerance lrochlorate Doses of 15 centigrams, night and uffice to maintain the prophylactic effect during o malaria.

ism in Bavaria—From recent official statistics by the Bavarian government in 1893, *L'Union* as compiled the following data There were 1,152 that country practicing medicine illegally—832 320 women In 1892 the number was 1,184, the being in the men alone As regards nationality, natives, 32 from other parts of Germany, 19 were 2 Americans, 1 Italian, and 1 Swiss Their previ-ations had been—pharmacists, 322, medical stu-vidows of physicians, 2, bath assistants, 4, day r peasants, 219, clerks, 12, salaried officials, 57, cs, 22, religieuses, 2, workmen, 188, merchants, sors, 6, writers, 6, masseurs, 10, annuitants, 44, veterinary surgeons, 2, ditchers, 2, of unknown s, 52, the rest scattering The branches of the t to which these individuals applied themselves icine generally, 333, sale of drugs, 207, intesti-, 6, surgery, 70 diseases of women and children, o therapeutics, 14, fractures and dislocations, 21, edies 118, jaundice, 1, obstetrics 43, massage, 4, hy, 87, hydropathy, 13, magnetism, 6, internal 71, "natural" medicine, 10, diseases of the eye and oscopy, 5, hernia, 1, wounds and ulcers, 34, den-etc

ion of Catheters—Dr John Ward Cousins in the *dical Journal,* Jan 19, 1895, recommends a steam for the disinfection of metallic and other cathe-s well known that boiling is not a good way to ft catheters, and that the insides of metallic cathe-t be satisfactorily cleaned by the ordinary method s' apparatus consists of a boiler having a capacity hree pints and capable of bearing a pressure of unds to the square inch It can be heated by a as jet in about fifteen minutes The steam pipe is with a circular tube fitted with projecting ter-d these are adapted to hold a complete set of cathe-old-fashioned spray apparatus can have the circu-ttached to them if required After the steaming g stilette is introduced and the instrument care-d

l as an Intestinal Antiseptic—M Hiller, of Breslau, tricresol a powerful microbicidal action, destroy-ptly the bacilli of cholera, typhoid fever, etc re potent than carbolic acid it is relatively but oisonous Thus M Hiller found it feasible to give grams for several days in succession, encased in apsules, containing each 10 centigrams of tricre-Koelsch, of Newstadt, reports a series of twelve yphoid fever treated with tricresol, to the exclusion ing else, even baths The patients took the rem-times a day, half an hour or an hour after their ouillon, according to the following plan Three the first day, 6 for the three following days, 9 for three days and 12 for the next three, from the day on, the daily quantity of capsules was gradu-nished in an inverse ratio Koelsch claims that —that is to say, from the third to the seventh day—reached a convalescent state in about the same length of time for the whole number of cases, a period that only varied between thirteen and seventeen days It is reported that in these cases the favorable effect of the tricresol was most evident, this appeared generally as soon as six capsules a day were administered, though sometimes not until twelve were given and its chief sign was a gradual lowering of the temperature until it fell to the normal

Thumbs Bring $2,000—The case of Kitchell v Brooklyn Heights Railroad Company, was instituted to recover damages for the loss of services caused by the amputation of the thumb of a 7-year old daughter of the plaintiff Liability therefore was charged to the company sued on account of its negligence causing the injury which resulted so disastrously. A verdict for $2,000 was returned, and the general term of the city court of Brooklyn holds, Nov 27, 1894, that, *considering the importance of the thumb as a member of the hand, and how necessary its presence is to make the hand available for use in nearly all ordinary vocations, this is not excessive, a bill of $100 for medical treatment having also been incurred*

Limit to Liability for Injuries Resulting in Miscarriage—The courts are experiencing considerable difficulty in keeping questions of sentimental damages out of personal injury cases In Tunnicliffe v Bay Cities Consolidated Railway Company, decided Dec 7, 1894, the Supreme Court of Michigan holds that while in such an action, brought for the recovery of personal injuries sustained by a married woman resulting in her miscarriage, the jury is allowed to consider the case with all its facts, and to take into account, for the purpose of a consideration, not only the physical pain, but also mental suffering, in determining the award of damages and while, of necessity, this involves to some extent a consideration of the nature of the injury, and can not exclude from the consideration of the jury the fact that the physical and mental suffering of the mother by reason of such an injury would be more intense than in the case of an ordi*nary fracture of a limb, yet beyond this it would not be* competent for the jury to go, and to attempt to compensate for the sorrow and grieving of the mother This seems to be the general conclusion of all the courts

Decision on New York's Pharmacy Law—In 1893, at the same session of the New York Legislature, there were two acts passed—one on March 31, and the other May 9 The first (Chapter 250, Laws of 1893) provided, in substance, that where a person was entitled to a license under the provisions of the act of 1884, but who had failed within ninety days to apply to the board of pharmacy for a license, he might, upon giving not less than eight days' notice to the secretary of the board of pharmacy, apply to the Supreme Court for an order directing the board to issue said license, and granting the court power to grant such order upon proof of good and sufficient cause shown for the neglect to apply for such license in due time The other (Chapter 661 of Laws of 1893) made provision for a State Board of Pharmacy, and for the licensing of pharmacists Under it there are two classes of persons who are entitled to a license to practice pharmacy,—those who have had four years' experience in the practice of pharmacy, prior to Jan 1, 1893, and *those who hold certificates of designation as pharmacists by* examination from any board of pharmacy legally created under the laws of the State The Supreme Court of New York, special term, Albany County, holds (*In re* Ward), Oct 30, 1894, that this latter act was evidently intended to take the place of all statutes theretofore passed in relation to those matters and by it Chapter 361 of the Laws of 1884 was expressly repealed, and, the whole of said act being repealed Chapter 250 of the Laws of 1893, being an amendment to a single section thereof, fell with it

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	State affairs
	Historical studies continued
	Law and eloquence
30	Public life
	Private and social virtues
	Habits of eloquence improved
	Philosophy resumed at leisure
	Orations published
35	Exertions in State and parliament
	Civil knowledge mature
	Eloquence perfect
	National rights defended
	The learned protected
40	The virtuous assisted
	Compositions published
	Science improved
	Parliamentary affairs
	Laws enacted and supported
45	Fine arts patronized
	Government of his family
	Education of his children
	Vigilance as a magistrate,
	Firmness as a patriot
50	Virtue as a citizen
	Historical works
	Oratorical works
	Philosophical works
	Political works
55	Mathematical works
	Continuation of former pursuits
60	
	Fruits of his labor enjoyed
	A glorious retirement
	An amiable family
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Strontium Salicylate —Dr H C Wood, in common, as he supposes, with most practitioners, has for many years been trying to find some way of getting the general action of salicylic acid without the gastric disturbance which so often follows the exhibition of its salts of sodium and potassium In the current number of the *University Medical Magazine* he describes a salicylate of strontium which he has had prepared and employed in a large number of cases in quantities of from 15 to 120 grains a day In doses of 5 to 10 grains, given after meals, the salt very commonly improves digestion and in the dose of 5 grains an hour after meals in flatulent dyspepsia and various conditions of tendency to fermentative changes in the alimentary canal, it is a useful intestinal antiseptic, seeming to him to give better results than do salol, naphthol or other of the older antiseptic remedies It has not yet been tested in acute articular rheumatism and Dr Wood thinks it would probably be less efficacious in this disease than the ammonium salicylate, but in muscular or subacute rheumatism with a tendency to digestive disturbance he has found it a very valuable remedy, exerting the action of the salicylates upon the diathesis and improving instead of injuring the digestion It may be given in solution, but is best administered in 5 grain capsules In his preliminary experiments on the lower animals, undertaken to determine the influence of this salt on the circulation, Dr Wood found that the dose of the strontium salicylate necessary to lower arterial pressure was nearly twice that of the sodium salicylate and distinctly more than that of the ammonium salicylate

Life Maintaining Dietary in Central Africa.—Lieutenant Lemaire, an officer of the Congo Free State, has written in the *Indépendence Belge*, on the improved health of foreigners dwelling above Stanley Pool, that has followed the larger use of the fresh vegetable products of the country These vegetables are sufficiently varied, but they are so different from the accustomed food of Europeans and Americans that they do not at once find a welcome to their table But they are soon found to be much more conducive to health than the imported canned goods that can seldom be made to "keep" properly under the African tropics M Lemaire remarks upon the low rate of mortality among the whites upon the Upper River, as it is called, he seeks to explain the good health of certain of the missionaries as due in part to a plentiful amount of physical exercise, and in part to their adopting the food supplies that are native to the region He says "We have never seen an excess of manual labor bring on fever or any sort of indisposition During my stay at the equator, from December, 1890, to June 19, 1893, not one of the white *personnel* of the station died, save a Danish mechanic who came to us only to take his bed The best illustration that I can give is that of the American Protestant Mission carried on by the Rev Charles Blair Banks and his wife, who have lived there seven years, and have had three children born there who are surprisingly healthy The result is due to the fact that Mr Banks, having built a charming cottage in the midst of a real park, has used the resources of the country for the larger part of his food supply—fresh vegetables from his garden, instead of canned peas, and, in general, fresh poultry and mutton instead of preserved meats—fresh goat and sheep milk instead of condensed milk, and the abundant fruits of the country instead of canned preserves "

Uniformity in Medico-Military Statistics —The International Commission of Military-Medical Officers for uniform sanitary statistics which met at Buda-Pesth in September last, Dr John S Billings, U S Army, chairman, came to an agreement as to the character of the statistics to be published for comparative purposes by each of the countries participating in the convention The Secretary of the Commission, Dr Myrdacz, of Vienna, has been informed by certain members of the Commission of the continuation of their status as members by authority of their respective war departments These include Drs Billings, of the U S Army, Notter, of the British Service, Grossheim, of Berlin, Dziewonski, of Paris, Von Harten, of Copenhagen, Van der Straten, of Brussels, Sforza, of Florence, Hermann, of Ingolstadt, and Myrdacz of Vienna A series of ten international statistical tables have been issued for the consideration of the various military medical departments and for adoption by them, if approved These have been submitted to Surgeon-General Sternberg and it is probable that in his next annual report will be embodied the first issue of the international statistics Table 1, provides for the data gathered by the recruiting service, 2, and 3, for the sickness and mortality in the various military departments, 4, sickness as prevalent in the various corps and arms of the service, and by months, 5, sickness as distributed among the larger garrisons, 6, and 7 specification of the prevalence of the most important diseases in absolute numbers and in rates per thousand, 8, distribution of the important diseases among the different corps and arms of the service, 9, monthly prevalence of the important diseases, and 10, deaths from disease, suicide and accidents or injuries according to years of service and age The important diseases of the international nosological table comprise thirty-three titles which include most of the specific febrile and acute infectious diseases with alcoholism, gonorrhea, hernia, sunstroke, scurvy, syphilis, trachoma, tuberculosis of lungs and of other organs, and diseases of the eye, ear, mind, heart, skin and genito urinary system

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REGULATION OF PROSTITUTION —There has been much discussion in the newspapers of the question of regulation of prostitution St Louis formerly licensed prostitutes, and during the time when they were under legal supervision funds from these licenses were drawn upon to build the Female Hospital, which, at the time of changing the law, was appropriated by the city The remark is now made that this hospital should be restored to those from whom the law made it possible to obtain it There are many voices heard in favor of a restoration of the former order of things, when medical supervision sought to protect the innocent through giving the vicious a safeguard Recent police regulations have driven the demi-monde from their usual quarters, and the city seems destined to have it indiscriminately scattered throughout the respectable precincts

THE CITY INSANE —There is a movement on foot to place the city insane under State care The gain of such a change would be very great, but the matter should not stop there, all State asylums should be, for once and all, removed from the domination of State politics

DR THOMAS O'REILLY has undertaken to excite the interest of the profession in the establishment of a State Examining Board It is to be hoped that soon some such measure will remove the present relation of medical schools to medical practice The better colleges of the city are all anxious to have such a change made

THE DENSTROW MURDER CASE has excited much public and professional interest here during the past two weeks The trial of the prisoner on the indictment for murder was suspended for an investigation of his mental condition Local prejudice had led to a change of venue to Franklin County, where the inquiry was had, and consumed a week The prosecution made an appeal to the spirit of vengeance and mob violence none the less shameful by reason of abundant precedent, but it was the only possible chance of gaining a verdict in the face of the facts The newspapers, almost without exception, were in accord with the spirit of the prosecution, and daily sought to manufacture public opinion that left small chance for justice and humanity The prosecution did not fail to call upon the Chicago precedent in the legal execution of Prendergast, thus showing how one wrong perpetuates itself and renders justice uncertain The prosecution was unable to introduce a single expert, and had to rest its case on physicians who would not even testify that the prisoner was sane The defense introduced a corps of distinguished experts from St Louis, Drs Chaddock, Bremer, Baudry and Simon, who gave the most unequivocal testimony showing the prisoner to be suffering with paranoia of a pronounced and unmistakable type The court limited the inquiry to testimony bearing on the present condition of the prisoner, and thus cut off the most important means of elucidating the case The charge of the court was within the antiquated lines of *partial* insanity and "degree of responsibility," and took no note of the more modern decisions In the face of the most openly expressed prejudice, however, the value of expert testimony was indicated, in that eight jurors declared for insanity A rehearing has been set for April 30

ST LOUIS MEDICAL SOCIETY —The meeting of January 26 was remarkable for the reading of a paper by Dr Paul Paquin, on the serum-therapy of tuberculosis In this paper the Doctor set forth his discovery of the antitoxin of the tubercle bacillus, and gave the results of treatment in twenty-two cases of advanced pulmonary tuberculosis The patients presented were all examined by the society, and no doubt was left of the fact that the results were all that were claimed The serum used was that of the horse, and its preparation and use had been going on for two months The reader presented very convincing arguments supporting his claims, and pointed out that where cavities have formed in the lungs there is always a mixed infection which necessarily interferes with the effects of the serum Experiments were being conducted to test its effects in tuberculosis of joints, etc The results were the more surprising from the circumstance that the patients lived on the ordinary poor-house fare Every patient had ceased to cough, fever had disappeared, and weight had increased in every case, in some instances to the amount of twenty six pounds in eight weeks In laryngeal tuberculosis it had been definitely curative There seems no doubt that this discovery is very remarkable and destined to open up a new line of treatment in tuberculosis The society appointed a commission to investigate and follow out the treatment thoroughly, in order to establish the genuineness of the claims made The society is still engaged in the investigation of charges of unethical conduct on the part of certain members, especially the much advertised superintendent of the City Hospital

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from Jan 19, 1895, to Jan 25 1895

First Lieut ASHTON B HEYL, Asst Surgeon, is relieved from duty at Columbus Bks, Ohio, and ordered to Ft Thomas, Ky, for duty

Capt EDWARD R MORRIS Asst Surgeon is granted leave of absence for twenty one days, to take effect upon being relieved from duty at Ft Warren, Mass

Major JOHN V LAUDERDALE, Surgeon, will be relieved from duty in the Dept of the East, to take effect upon the expiration of his present leave of absence, and will then report for duty at Ft Omaha, Neb

Lieut Col HENRY R TILTON, Deputy Surgeon General, is relieved from duty at Ft Omaha Neb, and will report in person to the Commanding General, Dept of Dakota, for duty as Medical Director of that Department, relieving Col CHARLES C BYRNE Asst Surgeon General Col BYRNE, on being thus relieved will report to the Commanding General, Dept of the East, for duty as Medical Director of that Department

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Jan 26, 1895

P A Surgeon O D NORTON, ordered to Naval Laboratory and Department of Instruction, Brooklyn, N Y

P A Surgeon T A BERRYHILL, detached from Naval Laboratory and Department of Instruction, and ordered to the Naval Hospital Brooklyn, N Y

Asst Surgeon J S HOPE, ordered to examination preliminary to promotion, March 4, 1895

LETTERS RECEIVED

Armstrong J T, Beatrice, Wis

Beach C H, Esculapia Springs, Ky Beck, Carl, New York City, Burr, C B, Flint, Mich Biddle, Jas G, Philadelphia, Pa

Conner, P S, Cincinnati, Ohio Clarke, A P, Cambridge, Mass, Collins, J S Carlinville Ill, Chapman, J, Big Bend Kan

Damrell & Upham, Boston, Mass, Douglas, Geo, Oxford, N Y, Drysdale T M, Philadelphia, Pa, Davison, F B Kleetville Pa

Eagleson, J B, Seattle, Wash, Eastman, Joseph, Indianapolis, Ind, Elliott, J L Duluth, Minn

Frank, Louis F, Milwaukee, Wis, Fisher, Henry M, Philadelphia, Pa Frazee, A B, Elbridge N Y

Gould, Geo W, Philadelphia, Pa, Goss, E L, Sheffield Iowa

Herrold, R H, East Chicago, Ind Hummel, A L, Philadelphia, Pa, (2), Hinkle, Geo W, Harvard Iowa Hampton, D A., Telico, Texas, Hollingsworth & Mathie, St Louis, Mo, Horner, Frederick, Marshall, Va

Jones, W D, Rising City, Neb Johnson, H P, Long Prairie, Minn

Lounsbury Mrs C E, Chicago, Ill Lippincott, J B Co, Philadelphia Pa Longmans, Green & Co, New York City, Lanphear, Emory, St Louis, Mo

McDougal, J G New Lexington, Ohio Morton, N Henry Brooklyn, N Y, Mercer, Alfred, Syracuse, N Y Manley, T H, New York City, Mogh, Wm A Ann Arbor, Mich McCurdy, S H, Pittsburg, Pa

Neer, H C Park Ridge, N J

Parke, Davis & Co Detroit, Mich, Patterson M F, Chicago, Ill

Rardin, J S, Portsmouth, Ohio Reed, R Harvey, Columbus Ohio Reincking, H, Sheboygan, Wis Ridlon, John, Chicago Ill Roberts, John B Philadelphia, Pa Robinson-Pettet Co Louisville, Ky

Smart, Chas, U S A Washington, D C Schieffelin W H, New York City Stearns, Frederick & Co Detroit Mich, *Sentinel*, The Co, Milwaukee, Wis Spofford, A R, Washington, D C, Stechert, Gustav E, New York City

Treat, E B, New York City Thornington Jos, Philadelphia, Pa

Ward, R H, Troy, N Y, (2), Wick, D M, Cedar Falls, Iowa, White Rock Mineral Spring Co, Waukesha, Wis, Wilson, T M, Thornton, Texas, Weaver, W H, Chicago, Ill, Ware C D, Colfax, Cal

PAMPHLETS RECEIVED

Blake Edward, M D M R C S Lip Chorea and Paresis of the External Pterygoid Muscles, commonly called Stammering London Harrison & Sons 1890 The same —Diseases of the Eye, Nose and Throat in Children London 1893

Eagleson, J B A Modification of the Halsted Operation for Hernia

Wiggin Frederick Holme A Case of Chronic Peritonitis, with Intestinal and Abdominal Fistulæ—Enterorrhaphy, Recovery Reprint from *Medical Record* 1894

Gerhard, Wm Paul, C E Novel Hot Water Apparatus for Rain or Douche Baths New York The same —The Rain Bath at the Utica (N Y) State Hospital 1894

Schaeffer, T W, M D The Commercialization of Medicine, or the Physician as a Tradesman Reprint from Boston *Medical and Surgical Journal* 1894 The same —The Sociological Status of Medical Practice Reprint from the *American Therapist* 1894

Rice, C C, M D Atrophic Catarrh a New Method of Treatment Reprint from New York *Medical Journal*

Haynes, Irving S, Ph B, M D Diphtheria, a New Method of Treatment Reprint from New York *Medical Journal*

The Journal of the
American Medical Association

Vol XXIV CHICAGO, FEBRUARY 9, 1895 No 6

ORIGINAL ARTICLES

A CASE OF INFANTILE SCORBUTUS, IN MONTANA

BY P RALPH EGAN
ASSISTANT SURGEON UNITED STATES ARMY

Infantile scorbutus was first definitely described by Dr Cheadle in 1878 This description he further supplemented by cases published in 1879 and 1882 Prior to that time these cases had been recorded as acute rickets, especially by German observers In 1883, Dr Barlow first established by two post-mortem examinations that the disease was true scurvy In this country, Dr Northrup confirmed Dr Barlow's observations by a post-mortem made on a child dying from an indetermined disease at the New York Foundling Asylum in 1889 Since that date various post-mortem and clinical cases have placed the correctness of these views beyond dispute

This disease is, however, comparatively rare It occurred but once in over two thousand cases of children seen at the out-door department of Bellevue Hospital (Neuhaus) and not once in a thousand cases at the same department of St Mary's Free Hospital for Children (Carr) It is, however, less commonly observed in hospitals than in private practice In 1891, Dr Northrup was able to collect only 11 cases, while but twelve months since, 106 cases were reported at the New York Academy of Medicine The frequent refusal of mothers to nurse their children and the almost universal use of proprietary foods are said to account for this increasing frequency of the disease

These proprietary foods mixed with water or condensed milk are the most common causes of the disease Condensed milk alone, and fresh milk unduly diluted have also produced some cases Prolonged sterilization of milk so far destroys its nutritive power as to give rise to scorbutus It is more common among the children of wealthy parents than among those of the poorer classes The latter are unable to procure proprietary foods, and give their children antiscorbutics from their table at an earlier age than scurvy generally develops Hence its rarity in hospital practice

The principal lesions occur in the femora, tibiæ, scapulæ, ribs and cranium Those found on post-mortem examination by Dr Barlow (Medico Chirurgical Transactions 1883, Bradshaw lecture 1894) were due to extravasation of blood This occurred between the periosteum and the shaft of the thighs Fractures between the lower epiphysis and the shaft were found in marked cases, the periosteum was very vascular but there was no inflammatory effusion In the interior of the bone was found evidences of rickets, and hemorrhage into the medullary canal, There was also extravasation of blood round the tibia, which was fractured at the line of junction of the epiphysis and the shaft The ossifying centers showed evidence of rickets There were large extravasations of blood into the deep muscular layers of both the leg and thigh The periosteum of the fibula was congested but only slightly detached Extravasations surrounded the entire scapula Anteriorly it was so marked as to produce a tumor recognizable during life, posteriorly the raised periosteum had produced a thin layer of bone The periosteum was found detached from the ribs with a chocolate colored detritus of broken down blood clot intervening The ribs were quite bare and separated from their costal cartilages at the line of junction, they were found to be mere shells filled with extensive indosteal hemorrhage The cranium showed thin extravasations in the vicinity of the petrous bone on both parietals There were also found a subperiosteal extravasation into the eye-ball Hemorrhages have been found in the lungs, and under the capsule of the spleen Blood-stained serum existed in the pluræ Hemorrhages have been noted in the mucous membrane of the stomach and intestinal canal, and rarely slight ulceration The dark spongy, hemorrhagic condition of the gums of children with teeth is characteristic of the disease Now that the general practitioner is becoming familiarized with its symptoms, autopsies will be exceedingly rare Fortunately the hypodermic needle may be used to draw off some of the effused blood from around the femora in doubtful cases Few people will risk making extensive incision and burning out the blood clots, as did Mr Page, of St Mary's Hospital, London

The following case developing during the summer on the plains of Montana, amid hygienic surroundings, illustrates nearly all the clinical features of the disease

N F, a female born July, 1891, has nursed until 3 months old She was then fed on Mellin's Food and condensed milk On this diet she seemed to thrive for about nine months At 5 months her teeth began to appear, during the next two months she cut eight, then no more showed until she was 16 months Her meals when 9 months consisted of the following Two tablespoonsful of Mellin's Food to one of condensed milk in one half pint of water every three hours She never learned to creep on all fours but when about 7 months old she used to pull herself about the floor in a sitting position, and to stand on her feet The first indication of her illness was that she refused to move in this way, or to stand when supported It was not noticed that she was fretful but she grew more delicate, seemed tired all the time, and unable to move her limbs Her favorite position was with her head resting on her nurse's arm and her legs drawn up When she was about a year old her parents went a visit to the Yellowstone National Park While there it was noticed that her gums were dark and swollen The doctor in attendance did not in any way connect this swelling with her inability to move her limbs It was considered a vascular outgrowth, which was accordingly removed and cauterized Notwithstanding this treatment the gums continued to enlarge and bleed on pressure

At about the same time it was noticed that her left leg was painful and that she cried when it was handled or when her shoes were put on Soon after her right leg became similarly affected These were considered rheumatic symptoms, and she was treated accordingly During this time her head perspired freely and needed to be dried quite frequently She also suffered from diarrhea throughout the summer Her discharges were generally green and slimy, blood was passed with some of the motions, so as to give rise to the suspicion of "bleeding piles" No fever was observed at any time during her illness, neither was any change observed in the color of her urine When the lower limb became painful the doctor did not think, from comparing it with the other, that there was any increase in size At no period of her illness were her parents or attending physician able to note any swelling, but no accurate measurements were taken One of the five doctors under whose observation she now passed made an attempt to change her diet to cow's milk It was found to disagree, causing nausea and constipation, so the attempt was abandoned The parents state that they did not understand this change to be at all essential, but simply an experiment When she was about 16 months old I first saw her in consultation The patient was anemic but fairly developed, the muscles, however, were soft and flabby, the hair was sparse and the head moistened with perspiration, there was no cranis tabes The chest was well formed but there seemed to be slight beading of the ribs The abdomen was not prominent The legs lay helpless, were not moved, and were exceedingly tender to the touch The thighs appeared slightly infiltrated between the knee and the hip, but were smaller in size The arms were freely moved There was no enlargement of any of the epiphyses and in fact no symptoms of rachitis, save slightly "beaded" ribs, and marked perspiration about the head There were no petechiæ present and no fever The gums notwithstanding frequent cauterization, were so enlarged as almost to cover the teeth, of a dark purple color, and bled on the slightest application The breath was foul, and the bowels relaxed

The diagnosis of infantile scorbutus was made from the pseudo-paralysis and excessive tenderness of the lower limbs, but more especially from the condition of the gums, which was characteristic It was apparent from the symptoms that there was little if any extravasation around the femora and tibiæ This is a condition that has been noted on post-mortem examination by both Drs Cheadle and Sutherland However, during convalescence and while the patient was under my immediate observation, a large subcutaneous hemorrhage was found on the thigh without known cause Others probably occurred at an earlier date The diarrhea—in this case complicated with blood—to which Dr Carr has called attention was quite prominent The "beaded" ribs and the head perspiration led me to believe that the scorbutus was complicated with a mild degree of rachitis

The child was put on fresh milk and a rational diet suited to her age The attending physician gave a little lime water and cod liver oil for the rachitis Later, when she came under my immediate care, Thompson's solution was given for the same purpose She steadily improved and would now make a splendid picture for an advertisement, setting forth the fact that proprietary foods are always useless, and frequently dangerous

As in the present case, infantile scurvy is usually mistaken for rheumatism Less frequently it has been confounded with hemophilia or congenital syphilis Even at the present time some writers, like Dr Ashby (*Practitioner*, December, 1894) refuse to admit the existence of true scorbutus in children, and contend that it is only acute rickets complicated with anemia which gives rise to a tendency to bleed The same hemorrhagic condition he asserts to be present in tuberculosis Fresh vegetables are looked upon as a preventative of scurvy, but with regard to fresh food such as meat and milk, there is, he believes, no such agreement However, the failure of observers like Dr Northrup to find evidence of rachitis, even in the post-mortem examination of the case which formed the base of our knowledge of the disease in this country, the rapid recovery of cases when given antiscorbutic diet and the occurrence of the subperiosteal and other hemorrhages characteristic of scurvy, as it affects the adult, will induce most observers to hold with Drs Cheadle and Barlow that the disease as seen in children is no other than true scorbutus

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NERVOUS DISEASE IN EARLY SYPHILIS

Read before the Chicago Academy of Medicine October, 1895

BY G FRANK LYDSTON, M D

Professor of the Surgical Diseases of the Genito Urinary Organs and Syphilology in Chicago College of Physicians and Surgeons, Surgeon in charge of the Masonic Hospital of Chicago Fellow of the Chicago Academy of Medicine Lecturer on Criminal Anthropology in the Kent Law School, Fellow of the American Academy of Social and Political Science, etc

Involvement of the nervous system in late syphilis is so common that all practitioners of experience have met with syphilitic nerve phenomena of varying types Nervous disturbances occurring as a part of the clinical picture presented by the secondary or active period of the disease are much less frequent—so much so that such cases are often overlooked and even discredited as syphilitic possibilities by physicians in large practice

Surgeons of large experience in the treatment of syphilis, with better opportunities for the study and systematic management of the disease have, on the other hand, come to regard early nerve disease in syphilis as sufficiently frequent to merit special consideration Hutchinson and Fournier, in particular, have expatiated upon this point, the former having described some beautifully typical examples of nervous disease occurring within the first year or two of syphilis In one of his earlier communications, Fournier described a very peculiar form of anesthesia or analgesia, occurring coincidentally with the roseola That instrument of diagnostic precision, the ophthalmoscope, has demonstrated beyond peradventure of doubt, the occasional occurrence of syphilitic retinitis within or shortly after the first year of the disease

Some of Hutchinson's cases, are by no means indubitably syphilitic, others, however, are so marked as to be beyond controversy Apropos of the clinical reports of this confessedly great authority, almost ny conservative diagnostician will, I think, agree ith me in the assertion that he displays a tendency take a great deal for granted Some of the cases f nervous syphilis which he reports are substan ated by the authoritative weight of an eminent pinion, rather by clinical data Laying such cases side, however, enough clearly cut cases remain to emonstrate the accuracy of his conclusions upon he general question of the early occurrence of nervus syphilis

It has been the fortune of the author of the present paper to meet with a number of cases of varying pes of nervous phenomena occurring in the early onths of syphilis Some of the manifestations observed are quite common and would deserve no attenion were it not for the fact that their neuropathic rigin is not generally understood I will not attempt to present cases of this kind, inasmuch as the henomena presented are a matter of common and aily observation These simpler and more common henomena constitute a part of the so called syphiltic fever, and embrace slight neuralgias in different ituations, varying degrees of cephalalgia, extreme nental depression, so-called rheumatic pains in lifferent parts of the body I will also present as europathic in character, several other lesions which t first sight would seem far removed from nerve disrder

The illustrative cases presented do not embrace all f those observed, nor have they been taken at ranlom, but have been selected because of the clearness of their history and clinical evidences of syphlis and their distinctness of type

Case 1—Obstinate and Severe Cephalalgia Occurring Coin ndentally with the Syphilitic Roseola The patient a woman bout 22 years of age, was brought to me by her lover, who as under my treatment for secondary syphilis, his chancre, which was typically Hunterian being still present The nistory of this woman was one of the most classical that it has ever been my fortune to follow the case was also a most amentable one in its results as I afterwards treated her ttle daughter for syphilis imparted by the mother in some nknown manner, no chancre being discoverable In the ourse of the sixth week after her chancre was discovered, he woman presented herself with a well marked roseola omplaining at the same time of the most severe headache ritis developed within three months, the headache becomng still more severe To make matters worse, mercury was adly tolerated Free inunction having been resorted to, he symptoms were finally brought under control, with the exception of the headache, which persisted with diminishing everity for at least a month after the other symptoms had lisappeared The headache in this case was diurnal, as well s nocturnal with, however, somewhat typical exacerbations There was at no time such tenderness of the cranial bones as is likely to exist in cases of bone involvement A source of embarrassment in this case was the necessity for the prolonged administration of morphia, other sedatives having no apparent effect There was in this case, no previous history of nerve disorder Pronounced mental depression from worry over her condition and fear of detection, was the only determining cause of the cephalalgia as far as I was able to judge As might be imagined, the free use of mercurials rather enhanced this condition

I will again allude to the element of mental dis quiet in this case in my analysis of cases

Case 2—Severe and Protracted Cephalalgia occurring in the Fourth Month of Syphilis—This case was that of a woman 30 years of age, who gave a very clear history of syphilis At the time of my first examination alopecia, small mucous patches, faucial engorgement adenopathy, and a fading roseola were still visible Spasmodic efforts at mercurial treatment had been made, the remissness having been the fault of the patient and not of her physician—a most capable man Headache came on about two weeks before I saw the case, but had become severe only within a few days In spite of active treatment the cephalalgia persisted until I was entirely out of patience with my anti syphilitic therapeutics There was a history of previous mild attacks of headache, and an obscure history of rheumatism I grasped at the latter straw and although the headache was typically nocturnal, salicylate of soda was given, without result, save that of increasing the patient's anemia Opiates now became the main feature of the treatment It so happened that I was experimenting just then with the salicylate of iron This was one of the few remedies that had not been tried and I therefore prescribed it, with the gratifying result of effecting a complete cure within a few weeks

Of the two cases of cephalalgia above outlined, I have been able to follow the subsequent history of but one Case 1 is at present under observation, and after eight years remains apparently well

Case 3—Severe Intercostal Neuralgia with Symptoms Simulating Pleuro Pneumonia, occurring coincidentally with the Roseola A man, 35 years of age, who was under my treatment for an initial sore, developed in the fourth week a well marked chill followed by fever, attended by cough, decidedly rusty sputa and bilateral râles, painful respiration, dyspnea, and the most severe intercostal neuralgia I have ever observed The symptoms were verified by two gentlemen who were serving as my assistants The temperature was only 100 degrees F and the patient appeared by no means as ill as his symptoms seemed to warrant I confess, however, that the possible diagnosis of an impending syphilitic eruption which I made, was a very long shot I must acknowledge moreover, that I ensconced myself behind the possibility of a complicating pneumonia I prescribed a warm bath and a hypodermic of morphia and on the following morning found the patient perfectly comfortable but covered with a pronounced and well generalized roseola

The subsequent history was that of the usual tractable case of syphilis

Case 4—Severe Lumbo Abdominal Neuralgia as the Initial Symptoms of Secondary Syphilis A man 40 years of age, consulted me regarding what were apparently soft chancres These sores healed kindly, but I gave the patient fair warning of the possibility of a mixed infection After about two weeks following the healing of the non-infecting local difficulty, the patient consulted me regarding a transformation of the cicatrix into a typical initial lesion of syphilis The new difficulty proved resistant to treatment, and my patient went the way of all disgruntled patients and changed surgeons The new attendant took pains to tell him I was mistaken and his anxiety was greatly relieved thereby Several weeks later, however, the patient developed what his doctor styled lumbago, the new symptoms proving refractory the patient again changed doctors and sent for me I found him suffering from a most agonizing lumbo abdominal neuralgia with nocturnal exacerbations On removing his clothing I found a well marked and extensive syphilitic roseola This was attended by a temperature of 101 degrees Under active mercurial treatment this case progressed quite satisfactorily with the exception of the neuralgic manifestations, which lasted nearly a month Dry cupping and counter irritation were necessary in addition to internal remedies

This patient stated that he was slightly rheumatic, and on inquiry related a strain which had affected his back some years before his syphilis was contracted He had never had lumbago and asserted that his back had given him very little annoyance since the old injury

Case 5—Hemianesthesia occurring during the early part of the Second Year of Syphilis The patient was a man 35 years of age with an extremely neurotic heredity He has been a hard worker in his commercial life and at the same time was a high liver and quite intemperate at times He had been comparatively well, however, until he contracted syphilis about fourteen months before I first saw him His treatment had consisted of several more or less spasmodic mercurial and iodid courses at the Hot Springs His symptoms while classical had at no time been prominent, mucous patches and moderate but typical alopecia being the most prominent symptoms Ptyalism had several times been induced a fact which should be duly considered in connection with the subsequent neurotic disturbances At the time I first saw the case no special symptoms were present The patient was hypochondriacal and neurasthenic, but presented no pronounced evidence of nervous disease The treatment prescribed was of a simple tonic character Here, I think, was an error, and yet I believe that my reasoning was sound enough, as I suspected over-enthusiastic dosing in the previous course of the case I will say in passing, that I often ignore the syphilis and prescribe for the patient, generally with the best results Improvement in the patient's general condition was quite rapid About a month after beginning treatment, however, he fell from grace and made a night of it, wine and women being equally prominent factors in his escapade The second morning thereafter, I was sent for and found a badly scared and penitent patient with pronounced right hemianesthesia There was slight impairment of muscular power and marked diminution of the reflexes The patient stated that his trouble had evidently come on during sleep, as he had noticed nothing abnormal until he awoke in the morning He said he could walk when he awoke, but that the numbness in his hand and arm was quite distressing, these members feeling as though they belonged to some one else

The late Dr Jewell saw this case in counsel and verified the diagnosis of syphilitic disease affecting the region of the internal capsule, without expressing any definite idea of the character of the pathologic process, of which more anon

Complete recovery ensued under large doses of the iodids associated with liberal inunctions of mercury This treatment was followed by two years of tonic specific treatment in conjunction with the double chlorid of gold and sodium The patient is to-day married, has healthy children and is enjoying the best of health

Case 6—*Severe Generalized Neuralgia and Spinal Pain Associated with the Roseola—Paraplegia in the same Patient within Eighteen Months* A man 55 years of age was referred to me by my friend, Dr Thackery, with what was apparently a soft chancre This proved refractory in healing but finally cicatrized without induration up to the time when the patient passed from under my observation Some six weeks after the healing of the sore, the patient again consulted me for what had been termed a lumbago A few days after leaving me he had developed a severe attack of la grippe from which he was slowly recovering when the so-called lumbago came on Experience had made me suspicious of lumbago following genital sores, hence I immediately directed the patient to strip As I anticipated, a pronounced roseola was present The pain in the back extended until the entire spine was involved, radiating into the abdominal region, thighs and arms, so severe was the pain that the patient was unable to move and could not rest comfortably in any position Sleep was for a time an unknown quantity The reflexes were exaggerated and there was no paresis My friend, Prof H N Moyer, saw the case with me and concurred in the diagnosis of syphilitic involvement of the cord, but I believe that he, like myself, was unable to precisely define the condition Spinal hyperemia was as definite as anything in my own mind I fancy that Dr Moyer rather leaned to the opposite view, but I am by no means positive on this point Neither of us felt justified in pronouncing the case one of spinal meningitis—a rather plausible diagnosis

The predisposing influence of grippe received its due meed of consideration The case proved very stubborn, and the most radical anti-syphilitic measures associated with counter irritation, electricity and massage were for a time almost ineffectual Inunction to the verge of ptyalism finally caused the case to yield, but recovery was very slow A very important point for consideration in this case was the fact which I afterward discovered, that the woman from whom the patient contracted the disease was with him almost constantly during his six weeks' confinement in bed This association was by no means platonic, as both parties duly appreciated the fact that they had been quite efficiently vaccinated

Eighteen months after his apparent recovery, the patient reappeared with paraplegia, treatment having been neglected during the interim I gave the patient some suggestions as to treatment, but declined to again take the case He has apparently recovered, judging by his gait as he walks about the streets The development of paraplegia within a few months after the original spinal pain is worthy of note

Case 7—*Facial Hemiatrophy Associated with Unilateral Deafness Developing in the Early Part of the Second Year of Syphilis* A man of 30 years presented himself with syphilitic nodes upon the tibiæ and a single small tubercle upon the forehead Syphilis had developed two years previously About nine months before I first saw him, the patient developed what appeared to be a severe facial neuralgia This lasted some weeks and as it was subsiding the patient noticed that the cheek upon the affected side was becoming somewhat hollow The wasting continued for several months but had evidently stopped when he consulted me for the other symptoms At this time the left side of the face presented a very peculiar appearance all of the muscles being more or less affected by the atrophic process The patient stated that for a time he was compelled to masticate entirely upon the right side, but this trouble had disappeared Thorough treatment with mercury and the chlorid of gold and sodium apparently cured this patient's syphilis, but the facial hematrophy remained unchanged At about the time the facial neuralgia developed, deafness of the corresponding ear was noticed This increased until the loss of hearing was complete Like the facial difficulty, the deafness remained unchanged by the treatment

A very similar case came under my observation several years ago in which, however, the facial trouble did not develop for several years after the primary sore and was unattended by deafness

Professor Moyer saw this case with me As in the preceding case, treatment was of no avail

Case 8—*Right Hemiplegia in the Third Month of Syphilis* This case is one of the most interesting of the series I was called to see a young man of 20 years of age whose friends were evenly divided upon the question of paralysis and acute alcoholism As the young man was attacked quite suddenly while taking a few social drinks, and was unable to articulate on his arrival home, the variance of opinion was by no means surprising

On examination I found almost complete right hemiplegia with associated aphasia According to the statements of his friends, the patient had always been in perfect health He drank some, but had not been previously known to indulge to excess

On directing the patient to open his mouth and protrude his tongue—a feat which he found difficult of accomplishment—I detected several mucous patches on the tongue and lips There was marked mental sluggishness On stripping the patient I found a well-marked maculo-papular syphilide, comprising a fading roseola and recently erupted papules Examination of the genitals revealed a typical initial sore with enormous induration, which had been present about twelve weeks Adenopathy, both general and local was well marked

This patient recovered completely under inunctions followed by the internal administration of mixed treatment and the protiodid in alternation. At present, four years later, he remains well

Case 9 *Left Hemiplegia Developing Eight Months after the Initial Lesion*—A young man 20 years of age, was referred to me for partial hemiplegia one week after its onset On inquiry I found that he had been treated for syphilis in a spasmodic fashion for about eight months The history was a typical one mucous patches being still present No other signs of syphilis save general adenopathy were present

Recovery in this case was slow but satisfactory There has been no relapse up to date—three years and a half since I first saw the case

Case 10—*Left Hemiplegia Ten Months after the Initial Lesion* A man 40 years of age consulted me two months after the onset of left hemiplegia The paralysis had at first been complete but sufficient improvement had occurred to enable him to get about with the aid of a cane A clear history of syphilis was obtained, the chancre having appeared about one year before the patient came under my observation

Treatment had not been systematic Sterno-clavicular periostitis on the right side and a characteristic thickening of the tibial periosteum were noted

No other symptoms of syphilis were present Under vigorous treatment the paralysis improved somewhat, but not to a satisfactory extent The other symptoms were rapidly relieved At the present time, nearly five years since he first came under my care, the patient is free from symptoms of syphilis, but is still hemiplegic, the upper extremity being especially disabled

Case 11 —Facial Paralysis Developing at About the end of the First Year of Syphilis A medical man whom I had previously treated for syphilis, consulted me regarding left facial paralysis, which he believed to be due to syphilis I confess that there were no definite data for such an opinion, but in view of the history and most rapid improvement after anti-syphilitic treatment was begun, the diagnosis of syphilitic paralysis seemed a fair one despite the possibility of other and more common causes The patient has been under observation only a few months, but seems quite well at the present time

Case 12 —Symptoms Simulating Tabes in the Third Month of Syphilis True Tabes Developing in the Same Case Six Years Later It is by no means frequently that we are enabled to secure as definite data on the relation of syphilis to tabes as in this case Even in this case moreover there are so many sources of fallacy that the syphilitic etiology of the final ataxic manifestations is by no means proved beyond question Personally, I am inclined to the view that the late cord disease was of syphilitic origin Respecting the preliminary attack of spinal trouble there can be little doubt as to its syphilitic character The patient was a man of 30 years of age who had been intemperate and sexually excessive, but quite healthy until he contracted a chancre This ran a typical course and was followed in the sixth week by a pronounced roseola and a severe type of so called syphilitic fever, necessitating confinement to bed Within a few days he complained of rheumatoid pains in his limbs, to which I am free to say, I attributed very little attention at the time At the end of a week, he attempted to get up and found considerable difficulty in walking On examination I found the gait of a distinctly ataxic character There was some loss of sensation and almost complete abolition of the knee reflex The pupils were normal The condition did not progress and proved of short duration a month of vigorous treatment bringing about recovery For some months, however the patient complained of a trifling unsteadiness of gait when he had been exposed to overwork or worry This finally passed away and for some years he remained well

Six years and a half after the original chancre, the patient again presented himself with symptoms of incipient tabes dating back about six months The symptoms slowly progressed until quite typical tabes had developed although vigorous treatment had been persevered in The patient finally passed from under my observation but I afterward heard that he died some three years later as a result of his tabes

I have met with numerous other cases illustrative of the early nerve disorders of syphilis, but they were either of trifling importance or the data were insufficient to warrant my presenting them to as scientific a body as this Academy

In several cases I especially regret the lack of data One such, which I will briefly mention, was that of a young man of 33 years of age, who developed hemiplegia in the second year of syphilis Following the paralysis which was never perfectly cured, epileptiform convulsions came on Treatment was of little avail and the patient eventually became insane Certain property complications made this a *cas celebre* thus enabling me to follow the case after a fashion, long after it passed from my care

It has been my aim to avoid cases in which the evidence was chiefly hearsay, this may enhance the value of the clinical report It is perhaps to be regretted that my cases have not been minutely studied by the neurologic expert, but it will at once be recognized that the neurologist is most likely to meet with the later and more obstinate types of syphilitic nerve disease A report based upon observations made from the standpoint of the syphilographer, may be of especial value to the general practitioner in the recognition and study of the early nerve phenomena of syphilis

GENERAL CONSIDERATIONS

The various forms of nerve and brain disease of syphilis, have received attention chiefly as phenomena of late syphilis, and even in the late cases it has been considered sufficient to classify them as nervous lesions, without any attempt at a critical study of the varying conditions underlying them The terms, diffuse and circumscribed gummy infiltration, have covered a multitude of pathologic conditions of widely varying types There is to be sure, more uniformity in the pathogenesis of late nerve disease than in the forms, yet in a general way, what I have to say of the precocious forms, will apply in a certain degree to the more systematic later types There is often in the later forms a very important plus factor in the etiology due to excessive drugging and the syphilitic cachexia This factor may exist in early cases, but it is exceptional The prognosis in all forms of nerve syphilis is fairly good, if we except the debatable cases of tabes and general paresis With early treatment the prognosis is much more favorable than is usually believed even in the late types

It is worthy of note that the more typical the lesion in late syphilis, the better the prognosis, thus, a definite gummatous deposit may always be expected to yield to judicial treatment Symptoms which do not yield, are due to lesions which may be termed post-syphilitic in the true sense of the term, or to nutritional disturbances produced, not by the action of syphilitic poison *in loco*, but by the pressure and irritation of products which have usually long since lost their infectious properties I believe that all tertiary changes are essentially post syphilitic and certainly can not regard tabes and paretic dementia in any other light, where we have reason to accept them as syphilitic in origin

The prognosis as regards recurrence is excellent, in well treated late cases of gummatous nerve disease This is apparently not so true of the early cases It may be that the necessity for vigorous treatment is not so well appreciated in the earlier periods, but be that as it may, the occurrence of neuropathic disturbances in early syphilis, is likely to be a premonition of future and more serious nerve trouble

In the writer's opinion, a clear understanding of the principles of pathogenesis underlying the early nervous phenomena of syphilis can only be obtained by regarding the disease as microbial Independently of the question of the known or unknown character of the germ, analogic reasoning alone should convince the intelligent observer of the logic of this position

Having accepted this premise, another point is to be considered, viz , the *modus operandi* of the germ In a general way it may be stated that the germ of syphilis follows a very regular and systematic evolution or life history As with all pathogenic microbes therefore, we must take into consideration the soil, the action of the germ *per se* and the action of certain toxins which it produces 1, by its own excretory functions, 2, by the morbid changes which it excites in the tissues in which it operates

The action of the germ may be said to be in brief, the excitation of morbid impulses and new properties in certain anatomic tissue elements These new properties are 1, a tendency to rapid proliferation, 2, a tendency to fatty degeneration, 3, infectiousness In time, as the life history of the germ is completed, the property of infectiousness is lost, but the other evil properties remain as long as the least trace of the syphilitic impress exists The effect of the toxins may still remain but no new ones are formed, save by the cell changes themselves,—metabolic toxins The tissues know the germ toxins no longer, save perhaps, by their effects The action of the early toxins may lay the foundation for cell changes which occur long after the germ has fulfilled its mission and disappeared

The relation of such debatable diseases as tabes and paretic dementia to early intoxication of the brain and cord is yet to be shown, but I feel justified in asserting that such early nerve intoxication may have much to do with these late phenomena What Hutchinson terms "vulnerability," may thus be rationally explained

I desire in passing, to state that most physicians regard syphilis in the light of a tissue destroyer, the syphilitic poison being supposed to roam about like the traditional lion, seeking innocent cells and fibers to consume This is a serious error, and has been responsible for much wild pathology and still wilder therapeutics Syphilis is a builder of tissue—such as it is,—and destroys, not by corrosion but largely by pressure innutrition Perhaps some of the severe lupoid, necrotic and phagedenic lesions of tertiary syphilis may be quoted in contradiction, but it would be easy to show their fallacy As a matter of fact, the disease is only apparently destructive and even its apparent destructiveness is generally manifested after the germ has probably disappeared With reference to prognosis, there is this to be said, viz , if the syphilized cells constituting syphilitic neoplasia —whether situated in the nervous system or elsewhere—be removed before pressure innutrition and absorption of the tissue elements have occurred, perfect recovery ensues The more delicate the structure, the more quickly must the removal be accomplished The practitioner must beware of delay in those obscure cases of sudden deafness, certain cases of disseminate or patchy choroiditis and neuro-retinitis occurring in syphilitics These affections when neglected in the slightest degree, and often *ab-initio in neuro-retinitis*, rank with tabes and general paresis, with respect to their curability

The practitioner should remember that his remedies may effectually remove syphilis, but may fail to remove the ruins produced by it Let us examine a scar left by subcutaneous resolution and absorption of a syphilide and then imagine a similar scarring, if you please, of nerve tissue and we can readily understand some obscure points in syphilitic neuropathology and therapeutics Apropos of this proposition, my position regarding the administration of mercury and iodin as a crucial diagnostic test in some forms of nerve syphilis may be readily surmised The failure of mercury and the iodids in tabes and paretic dementia, has often been used as the chief argument of those who deny the specific origin of these diseases As well say that a long standing case of paraplegia or hemiplegia can not possibly be of specific origin, because forsooth, mercury and iodin will not cure them Another point. Mercury and iodin may remove the adventitious deposit very quickly, yet fail to impress the new connective tissue which has been thrown out as a consequence of the irritation induced by the syphilitic neoplasia To the neurologists present there may be nothing novel in this view, yet how few practitioners understand it

As is readily apparent from what has already been said, I am inclined to place toxins in a very prominent position in the etiology of early syphilitic nerve disease I also believe in their more remote relation to some of the later types of nerve phenomena It now remains to consider how the toxins act As I have observed what I assume to be their effects, I believe that syphilitic toxins act in several ways, viz .

A By direct intoxication of nerve tissue	1 Central 2 Ganglionic 3 Peripheral
B By the induction of vasomotor changes via the sympathetic ganglia or the so called monarchical vasomotor center in the medulla	1 Of the vessels of the central nerve system 2 Of peripheral vessels 3 Of visceral vessels
C Direct intoxication and irritation of vascular tissue producing in the nervous system	1 Active hyperemia 2 Passive congestions 3 Inflammations of lower type

The question at once suggests itself, if toxins are present in syphilis and they are so variously and multitudinously pathogenic why do not all syphilitics present such results in greater or less number and severity? To the practical clinicians present, such a query would never suggest itself, but the practitioner who is impressed with the typically specific character and routine effects of syphilis on the average might well be expected to be a doubting Thomas And let me add at this juncture, that the plus factors in syphilis are too little appreciated even by the expert The man who sees nothing peculiar in the determination of a mucous ulcer by the irritation of a jagged tooth or the use of tobacco, is at once at sea when confronted with a syphilitic nervous disorder The relation of cause and effect is, it is true, not so easily determined in the latter, but it is none the less definite Throughout the course of syphilis we find lesions which are determined by very simple and common factors Thus mucous irritation long continued determines mucous plaques, ulcers, papillary hypertrophies, fissures, tubercles and condylomata. Gouty and rheumatic irritations of muscle, tendons, ligaments, and synovial membranes determine so-called syphilitic and mercurial rheumatism of such structures Gout and rheumatism predispose to iritis, neuralgias, and infiltration of arteries Just so surely do such sources of irritation as alcoholism, sexual excess, the gouty and rheumatic diathesis, mental over exertion or worry, determine nervous disease of a type corresponding to the seat of irritation This applies not only to the toxin neuroses, but to phenomena due to structural changes, *i e*, to syphilitic new growth The element of heredity is of importance, but as we well know, a neuropathic tendency may exist without it

(*To be continued*)

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RETRO-DISPLACEMENTS OF THE UTERUS WITH SOME MODES OF TREATMENT

BY JOHN MADDEN, M D
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The different opinions which have been and still are held regarding the pathologic importance of the retro-positions of the uterus, together with the many different mechanical and surgical measures employed for their relief, form an interesting and profitable study The subject is not a new one, and it would seem that a sufficient amount of evidence is already at hand to warrant definite opinions and establish well defined lines of remedial procedure This, however, is not the case, for one who reads the literature of the subject from the time of Simpson to the present day is liable to be a good deal confused both as to the importance of the condition itself and the value of the different remedies for its relief

Dr Simpson's articles on retro-position were published between 1843 and 1848 They were the first extensive observations upon the subject which had yet been published The prominence of the writer brought out many articles on the subject and his extreme views as to the importance of the displacement had many adherents Thus we find Ashwell in 1844 making the following observation "Retroversion is an alarming, but a rare displacement and when fully established the altered position of the uterus is most striking The fundus is turned downward and backward into the hollow of the sacrum, while the os and cervix are carried upward and forward, impinging on or lying above the symphisis pubis It is the opposite of anter-version and demands more prompt attention, for although at first, neither the structure nor the function of the organ are affected, if it be overlooked or neglected it will not be long ere extreme irritation and danger ensue" (Ashwell, Ed 1845, p 418) Quoting further from Ashwell (p 420) "Retroversion is not at the moment of its occurrence, except it happen very suddenly, indicated by any marked change in the patient's state of feeling, she generally remains ignorant of the accident until an attempt is made to relieve the bladder Failing in this she becomes alarmed and uses straining efforts but is unable to accomplish the act The distension and the inability continue to increase—and in twenty four hours if the catheter is not used the suffering will be extreme—but the bladder is not the only organ whose functions are interfered with, the rectum is so pressed upon by the fundus of the uterus that constipation and sometimes almost entire suppression of stools ensue" Other symptoms given by the same author are nausea and vomiting, painful fullness in the pelvis, dragging in the loins, and expulsive pains like labor, also stomachic and abdominal pain, fever with quick pulse, hot skin and great restlessness (*Ibid*)

Views similar to the above were expressed by Rigby, Protheroe Smith, Henesley and other contemporaries of Professor Simpson These opinions were antagonized, however, by Drs Bell and Oldham, but their greatest opponent was Dr James Henry Bennett who, in 1849, criticized the views of Dr Simpson's followers in the following language "There has been a great tendency, of late years, to exaggerate the importance of this displacement The essays of Dr Simpson himself, although highly practical and interesting, are not free, in my opinion, from this reproach (Bennett 'On The Uterus,' Ed 1850, p 202) I am the more disposed to insist upon the opinions which I entertain upon this subject, as several writers in their attempts to follow Dr Simpson's researches have published such singularly erroneous statements respecting retro version of the uterus and its symptoms, that I feel called upon to enter my protest against doctrines calculated to mislead the profession Thus it is repeatedly asserted that it frequently, if not generally gives rise to all the local, functional and general symptoms and reactions which I have described as characterizing inflammatory affections of the uterus, to engorgement of the uterine neck, to chronic inflammation of the ovaries ('Sterility and C,' *ibid* p 203) These assertions are stated to be founded upon clinical fact, but I firmly believe that they are, to a great extent, deduced from facts misunderstood or misinterpreted" (*Ibid*)

Notwithstanding the protests of Bennett and a few others, the views of Simpson seem to have been generally adopted in England Previous to Dr Simpson's publications too, there already existed in Germany and France, quite an extensive literature on the subject of retroversions, and views of their importance as pathologic factors held by the German and French gynecologists did not differ materially from those expressed by the Edinburgh professor Among those of the German school who wrote of these displacements were Schweighauser, of Strasburg, Bruninghausen, of Wurtzburg, Schmitt, of Vienna, Schneider, of Baldy, and Kirchner, of Poeneck, and of the French the writings of Madam Boivin and Dr Duges are the most conspicuous Colombat, the painstaking and conscientious French gynecologist, published his work on the "Diseases of Females" in 1844 (translated by Meigs, Second Ed, 1850) In the preparation of this work, he states in the preface that he has examined the works of over one thousand writers on gynecologic subjects, and as this was more a consensus of opinion rather than a particular dogma of the author, the article on retro-positions of the uterus is reliable, in that it gives what was probably, the approved teaching at that time Of the symptoms of retro-version this author writes as follows (Meigs' "Colombat," p 160-161) "Supposing the womb to be non gravid, and the cavity of the pelvis of ordinary dimensions, if the displacement takes place gradually, the patient begins to feel an inconvenient sense of pressure within the pelvis, then the groins, the loins, and thighs are affected little by little with dragging pains, which become more and more annoying Soon after this the signs of inflammation of the womb become manifest, and the suffering more acute, the catamenia become disordered, either increasing or diminishing in quantity, a leucorrhea, which in some instances is bloody, flows during the intervals between the menses, the digestion is deranged, the appetite is lost, the woman grows thin and her strength diminishes At length a fever sets in which in some cases, is of a high grade and continued type, but in others slight, and characterized only by heat of the skin, and by agitated evenings and nights

"To the above symptoms, there is always added a sense of pressure at the bladder or rectum, giving rise to frequent desire to urinate or go to stool During the flow of urine the jet is soon checked or suddenly arrested, and as the displacement always increases in proportion to the efforts made to expel the urine and feces, the symptoms are always greatly augmented by those attempts" It is needless to point out that in the light of modern pathology, this formidable train of symptoms could not be produced by a mere retro-displacement of the uterus Here we have an accurate portrayal of infectious invasion of the genital canal, beginning with a vaginitis and ending with profound pelvic inflammation A striking example of Dr Bennett's charge that the symptoms are misrepresented or misunderstood This subject will, however, be discussed further on in this article

In America, the extreme views of the importance of retropositions were adopted with little reservation Meigs, writing in 1850, expresses himself thus "In my opinion a majority of the cases called womb complaint, met with in this country, are cases of retroverted uterus An ample experience teaches me that such instances are far more numerous than mere prolapsus Indeed, a simple prolapsus not gone to the extent of procidentia, does not necessarily give the patient a great deal of distress A woman soon becomes accustomed to a moderate degree of descent of the organ, and does not feel, or even suspect its existence" He further remarks that the accident is very common in girls who lead a sedentary life In this class of cases, failure to empty the bladder at proper intervals produces stretching of the round ligaments until they become incapable of acting as uterine supports, and, also that the disease "ought to occur as frequently in the sedentary girl as in the wife and mother" (Meigs' "Colombat," p 160) Sims and Hodge held similar opinions, and the latter will long be remembered for his extreme views regarding the value of the pessary which still have their influence with gynecologists Dr Thomas in 1880 ("Diseases of Women," fifth Ed pp 436 and 438) gives the usual long list of symptoms produced by retro-displacements of the uterus Among the consequences of posterior displacements, he mentions dysmenorrhea, endometritis, sterility, aveolar, hyperplasia, and pelvic peritonitis "Furthermore," says Dr Thomas, "the body sometimes descends to the upper extremity of the vagina and instances are recorded by Rokitansky and Schott in which it penetrated the walls of the vagina and rectum, and forced itself into these canals This is a very rare exception, but it is worthy of mention as showing how great is the pressure which a retroflexed uterus may exert "As rare complications may be recorded hematometra and hydrometra from imprisonment of fluids by obliteration of the canal by flexion at the os internum"

In Dr Emmett's article on uterine versions ("Principles and Practice of Gynecology," Third Ed) an elaborate system of tables is given, but a study of them brings little conviction beyond the fact that inflammatory changes are almost always found in connection with retro-versions

More recent writers, as a rule, hold practically the same opinions as those already cited Dr Geo S Harrison, of New York, ("American System of Gynecology," Vol II, p 1116) says that "the symptoms of chronic retroversio-flexios are so multiform they embrace the entire gamut of morbid sensations," and that besides the ills directly referable to the uterus and neighboring organs of which a very long catalogue is given, indeed, "the most varied alienations of the psychical sphere, the strangest forms of anesthesia and hyperesthesia of particular portions of the body, the most persistent forms of neuralgia, and, finally spasm and paresis involving different groups of muscles, may be dependent entirely upon retroversio-flexios and can be partially or completely relieved only by a restoration of the uterus to its normal position" This author says much more in the same strain, but it is not necessary to quote further from his article to show the importance which he gives to retro-displacements as pathologic factors Pozzi dismisses the subject in a few lines, quoting the views of others without committing himself (Vol I, p 438) Skene in his treatise on the diseases of women (p 308) mentions the common symptoms referable to the pelvic organs, making the reservation, however, that the suffering caused by retroversion varies greatly in different patients and that one of his patients who had retro-version many years, not only suffered no discomfort, but was one of the most active women he had ever known Prof August Martin, of Berlin, ("*Frauen Krankheiten*," p 90) who mentions the usual symptoms of backache, pressure and dragging down, and vesical and rectal tenesmus found in connection with retro positions, makes the following remark "These appearances which are looked upon as quite particularly characteristic of retroflexions, the reactions upon the nerve plexes on the anterior wall of the sacrum and dependent inability to stand and walk belong more frequently, not to the retroflexion as such, but to a perimetritis which exists at the same time, and in these cases generally originates in the same puerperium as the deviation of the uterus, but not caused by it alone" ("*Diejenigen Erscheinungen welche as gans besonders den retroflexion Eigenthümlich angesehen werden, die Rückwirkung auf die Nervengeflchte an der Vordern Wand des Kreuzbeines und dadurch bedingtes Unvermögen zu stehen und gehen, gehören viel haüfiger nicht zu Retroflexion als solche, sondern zu Einer Perimetritis, die gleichzeitig besteht und in diesen Fällen gewöhnlich aus demselben Wochenbett stammt wie die Deviation des Uterus von ihr allein aber nicht verursacht werden*")

I have taken the trouble to examine all such authorities as I have access to and quoted freely from the same in order to show what has been and what now is the generally accepted opinion as to the pathologic importance of retro-deviations of the uterus as such A consultation of a great number would probably not change the result, as the opinions quoted are those of representative men From the evidence here presented, then, we are to believe that retro version and retro-flexion may be productive of profound anatomic changes, inflammatory in their character and that they may give rise to symptoms "so multiform that they embrace the entire gamut of morbid sensations"

That a retro-version of a uterus otherwise normal and where the other pelvic organs are in a normal condition of health, can produce even a small amount of discomfort, is difficult to believe The specific reasons given for the suffering caused by the displacement are pressure upon the rectum, producing rectal tenesmus, constipation and other associated ills, and obstruction to the circulation in the uterine body gives rise to uterine congestion, enlargement, metritis and endometritis also, logically of salpingitis, followed by all the symptoms which these disorders generally produce In retro-flexions we are to add a greater amount of obstructions, to the circulation, by reason of the sharp bend in the uterine neck and also obstructive dysmenorrhea resulting from the same deformity To convince you of the importance which has been given the pressure of the uterus alone, your attention is called to the cases cited by Dr Thomas, in which the uterus is said to have penetrated the wall of the rectum and vagina, the pressure being so great as to completely obstruct the circulation in these parts To impress this lesson upon us Dr Thomas remarks that "it is a rare occurrence, but it is worthy of remark as showing how great is the pressure which a retroflexed uterus may exert" (*loc cit*) The possibility of such a disaster from retroflexion would probably not find any believers at the present time, but the influence of such teaching is still with us

The unimpregnated healthy uterus weighs from one to two ounces Its supports are so arranged as to admit of very free vertical and antero posterior movement Its blood supply is abundant and the vessels are tortuous, admitting a free amount of stretching without encroachment upon their caliber In perhaps a majority of cases the uterus rests upon the bladder when that organ is empty When the bladder is moderately distended the uterus assumes an upright position and when extreme distension of the bladder occurs, the uterus may be slightly retroverted [1] The round ligaments are regarded as the principal agents concerned in holding the uterus in its anterior, "normal," position, but they are frequently poorly developed or altogether absent (Martin's "*Frauen Krankheiten*," p 78) Another important factor concerned in holding the uterus in its anterior position is the extent of the uterine attachment to the bladder, as indicated by the depth of the vesico uterine cul-de-sac I have seen this nowhere discussed, but it is well known that the peritoneum in some cases dips deeply down between the uterus and the bladder, closely investing the former organ to or beyond the internal os before it is reflected upon the latter, while in other cases the cul-de sac is very shallow, both organs being practically covered by the same fold The importance of this broad stretch of peritoneum must be considerable, probably as great as that of the round ligaments themselves When, therefore, the round ligaments are absent or only slightly developed, and when at the same time, the vesico uterine cul-de sac is deep, the uterus will certainly have a greater degree of antero posterior mobility It is impossible, under such circumstances that a retroverted uterus could have any pathologic importance, either by reason of its normal weight or that its circulation would be interfered with

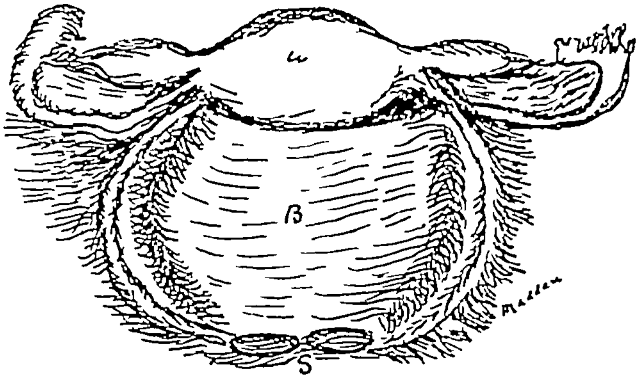

Fig 1 —Long round ligament and broad vesico uterine peritoneum allowing free antero-posterior movement of uterus bladder empty S, symphisis pubis B, bladder U uterus (Diagramatic)

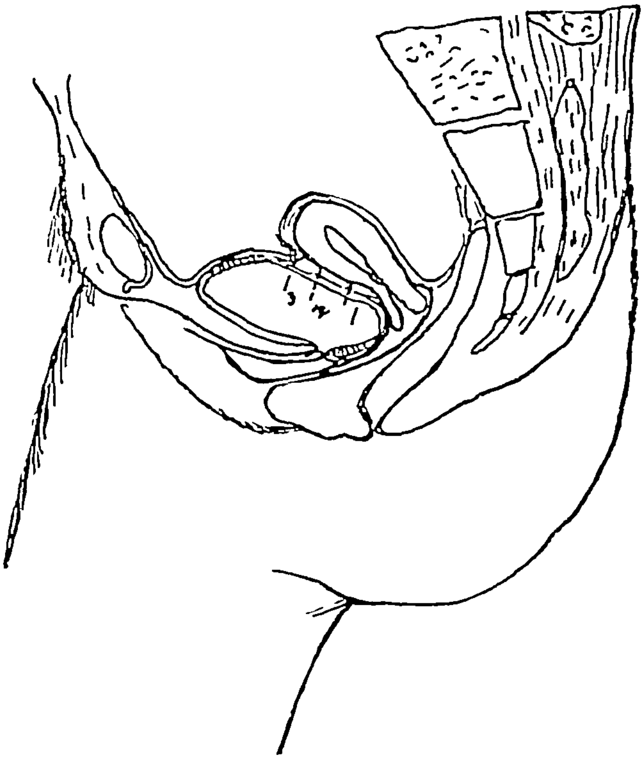

Fig 2 —Different degrees of attachment between uterus and bladder 1, 2 3 different depths of vesico-uterine fold Bladder moderately distended (Diagramatic)

In the case of retro-flexions, excepting where they are congenital, they are probably always preceded by inflammation, usually cervical and corporeal endometritis with elongation and softening of the supravaginal portion of the cervix until it becomes incapable of supporting the enlarged uterine body Nor is it quite clear how much of the dysmenorrhea met with in retro-flexion is due to the flexion, and how much of the inflammation to the cervical and corporeal endometritis If the flexion is extreme, so that the axis of the cervix meets that of the body at an acute angle, the mechanical obstruction from this cause alone may, no doubt, be productive of a great deal of suffering Such extreme cases of retro-flexion are, however, rare More often the axis of the uterine canal, at the junction of the cervix and the fundus, describes the arc of a circle with a comparatively long radius, the retro-flexion thus, in itself, not offering any considerable obstruction to the passage of menstrual fluid This is not the case, however, when the cervical canal is already completely occupied by a redundant mucous membrane, the product of a long continued inflammation It is not necessary to point out here that an endometritis with the uterus in its normal position may be productive of just as much and just as severe dysmenorrhea as the same inflammation produces when that organ is retroflexed or retroverted In retro positions of the uterus, too, especially in retro-flexions, much stress has been laid upon the passive uterine congestion brought about by obstruction of the circulation Williams, some time ago called particular attention

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[1] This is not true in all cases Dr George McClellan, of Philadelphia, found by experiment upon the cadaver that if the bladder is gradually distended while the bowel is empty the fundus is raised until the organ assumes a decided anteflexion ' (Regional Anatomy Vol ii p 113)

to the fact that each segment of the uterus is supplied from a different source, so that flexions could not be productive of obstruction The fundus uteri receives its blood supply from the ovarian artery, the cervix from the uterine artery Both vessels, with their accompanying veins, lie between the folds of the broad ligaments, beneath the Fallopian tubes A mere bending backward of the uterus could not interfere with their functions Let, however, a parametritis take place, an inflammation extending from the tubes to the tissue between the folds of the broad ligaments, and the encroachment upon those vessels with the accompany uterine congestion is easily understood

What I firmly believe and what I wish to teach is, therefore, that retro-deviation of the uterus is not in itself a pathologic condition, that it is not productive of inflammation, but it is almost exclusively the result of inflammatory process, that the accompanying symptoms are those of the same inflammation when the uterus is not displaced, and that unaccompanied by inflammation, in a normal pelvis, it rarely produces any painful sensation Exception is to be made in the rare cases of congenital retro-flexion, of a high degree, in which obstructive dysmenorrhea may exist It is here to be remarked that the evidence of congenital retro-flexion rests upon debatable ground Martin mentions one case reported by Ruge, but the age of the subject is not given Schultze and some others seem to conclude that a retro-flexion existing at the time of puberty is to be regarded as congenital That this conclusion is valid is very doubtful There is no reason for doubting that hypertrophic changes may take place in the infantile uterus as a result of infectious inflammation of the genital canal, producing cervical elongation and flexion, and that both the inflammation and the flexion remain unrecognized until the age of puberty is reached Vaginitis and endometritis gonorrheal in their origin, are not extremely rare in young children I have seen a most violent vaginitis, cystitis, and cervical endometritis in a child 10 years of age, whose father I was then treating for a long standing gonorrhea I have seen a similar, but less severe, condition in a child 5 years old In this latter case the disease was of long standing, and the father confessed to having had a gonorrhea nearly two years before

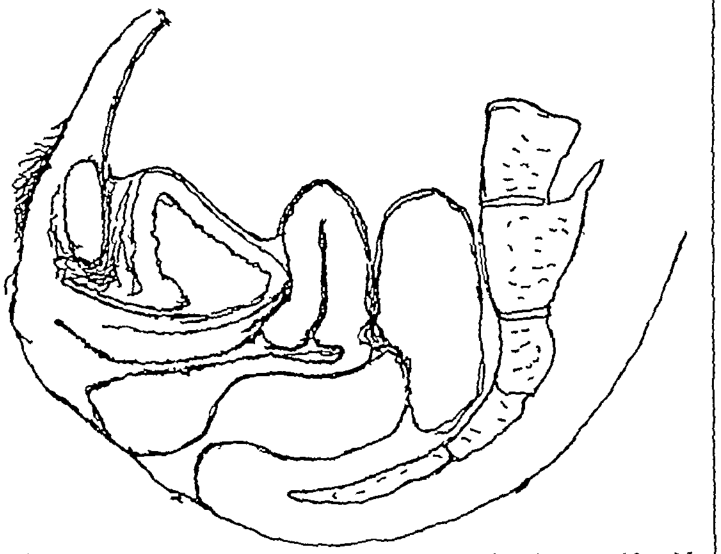

Fig 3—Waldeyer's section of frozen cadaver, showing considerable degree of attachment between uterus and bladder

Retro deviations of the uterus are productive of no distinctive symptoms When accompanied by any symptoms at all they are those of inflammation of endometritis, metritis, salpingitis and parametritis I wish here particularly to mention a condition which is common in retro-displacements of the uterus as well as in inflammatory troubles in which no deviation is present, and which is, I believe, often erroneously attributed to the displacement itself, because relief follows a replacing of the organ in its normal position I refer to the sensitive point which is found on one or both sides of the uterus, in the region of the Fallopian tube, and within an inch of its entrance into the uterus There can not be much doubt that this sensitiveness is due to a salpingitis which may exist either alone or in connection with an endometritis It is located in that part of the tube which suffers a free amount of bending motion during the vertical movements of the uterus, and any remedy which will take the weight of the uterus off the tubes and at the same time limit or abolish its vertical movements will be attended by relief, whether the uterine body is put in its anterior position or not I have often seen such relief follow the mere filling of the vaginal vault with cotton, without any attempt made to remedy the retro-displacement Where adhesions to Douglass' cul-de-sac exist, the posterior vaginal vault is sensitive, often exquisitely so, but here the secondary influence of the displacement is too manifest to need discussion

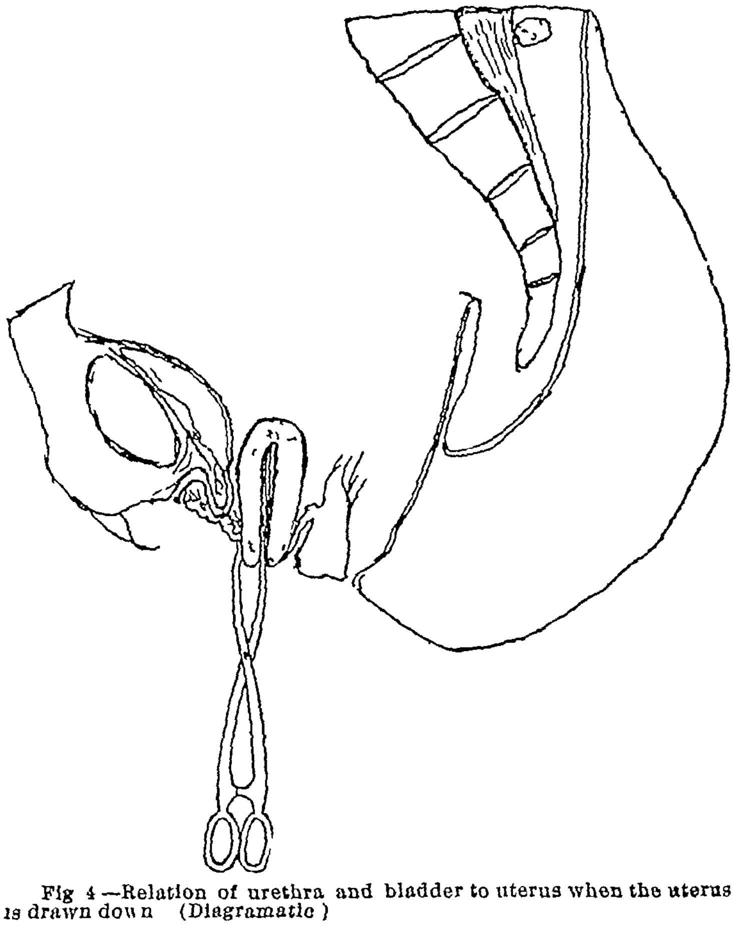

Fig 4—Relation of urethra and bladder to uterus when the uterus is drawn down (Diagramatic)

It is not the purpose of this paper to discuss all the mechanical and surgical measures which have been used for the relief of retro-deviations The most of them are well known and estimates of their value are as numerous at least, as the men who introduced them I firmly believe, and this belief is founded upon a considerable amount of experience and observation, that through antiphlogistic and antiptic measures, temporary artificial support of the terus where the tubes are inflamed, removal of dis- sed parts with the curette and by proper operations out a lacerated and indurated cervix, and the storation of an injured pelvic floor together with roper attention to the general nutrition, will relieve l the symptoms attending retro-displacements in a eat majority of cases without paying any attention the deviations as such Exception is here to be ade where the inflammation has been extensive and estructive, where the uterus is firmly bound down y adhesions

In concluding this article, I wish to mention only ree operative procedures for the retention of the erus in the anterior position They are ventro fixa- on, shortening of the round ligaments by drawing em through the external abdominal ring and the ginal fixation of Mackenrodt *Ventro fixation will* bably always be performed in those cases of retro- sion in which the opening of the abdominal cavity a necessity, especially for the purpose of breaking of posterior adhesions The value of the opera- n is not yet established Martin had performed it ty-three times up to Feb 1, 1893, thirty-one for sterior adhesions, eight times *after the removal ot* omata and four times for movable retro-flexions ice the date here given, he has operated in the ne manner a number of times but only *for posterior* esions and after the enucleation of myomata the outcome of the forty-three cases here men- ned Professor Martin remarks "*The final results* not brilliant After one to four years the ad- ions of the *uterus to the abdominal wall*, were so ch stretched that the uterus lay free Sometimes ough continuance of the existing perimetritis, the rus was again brought to the retroflexed position " ly once have I had the opportunity to see *the ex*tent and strength of the adhesions which may be produced by ventro-fixation *This patient had been castrated by Dr Christian Fenger, of Chicago, for a* myoma about as large as an orange, situated in the left lateral wall of the uterus A retro uterine abscess developed for which I opened the abdominal cavity about a year afterward There were two very firm areas of adhesion, probably aggregating one square inch and apparently capable of sustaining a weight many times greater than that of this very much enlarged uterus But the tendency of adhesions thus produced, as in all other cases is toward *absorption*, making a just estimate of the final results of the operation impossible If, however, the antero-position can be retained only long enough to prevent a re-adhesion of the uterus should it become again retroverted, the operation has an important place

Opinions of the value of the so called Alexander's operation are indefinite and variable Beyond a few opinions given off hand I have been unable to find any statistical information upon the subject The operation is suitable for cases not attended by adhesions The German *gynecologists have* practiced the operation but very little Martin remarks "The *inconstancy* of the round ligaments, which I have taken the trouble to establish through my laparotomies has to the present, prevented my adoption of Alexander's operation " ("*Frauen Krankheiten,*" p 98)

In 1892, Mackenrodt, of Berlin, united the body of the uterus to the anterior wall of the vagina for the purpose of correcting retro-deviation of the uterus The operation has since been performed by other of the German operators, but chiefly by Professor Martin, and as practiced by the latter is briefly as follows With a combination sound and tenaculum forceps, the uterus is anteverted and drawn downward and

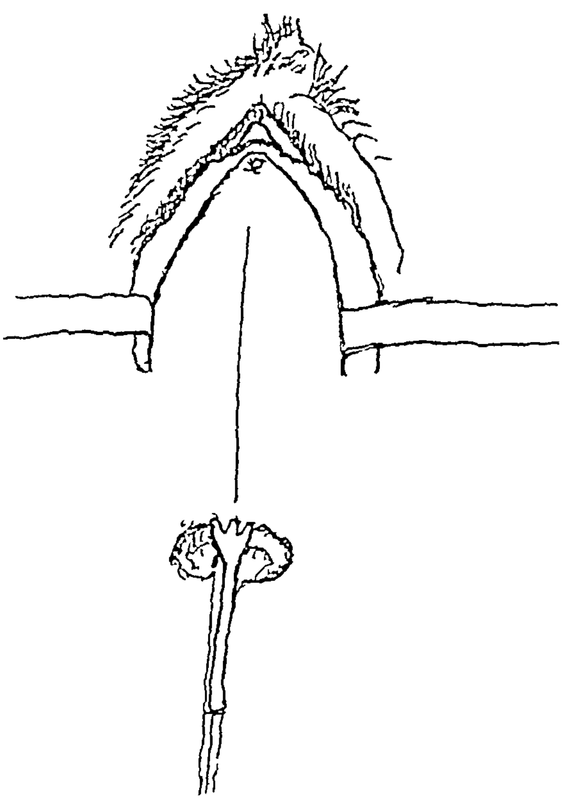

Fig 5—First step in Mackenrodt s operation Uterus drawn down anterior wall of vagina incised

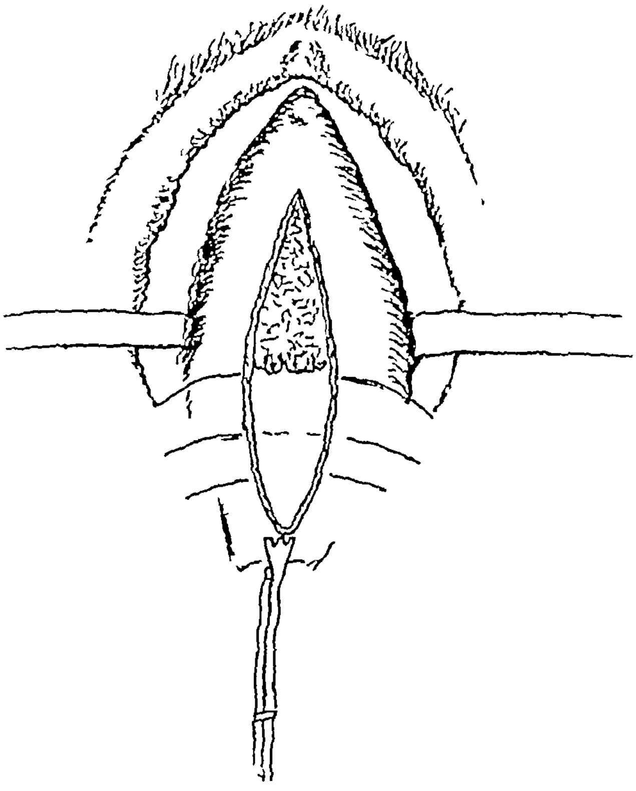

Fig 6—Mackenrodt's operation Vaginal mucous membrane dis sected off, sub mucous tissue pushed up and secured, and three silk *sutures in situ*

outward, until the os is quite without the vulva With a scalpel the anterior vaginal wall is then split from a point one-third to one-half an inch beneath the urethral opening down to the portio vaginalis The mucous membrane is carefully dissected off from the submucous tissue for some distance on either side of the incision, the submucous tissue shoved up and its bleeding vessels stilled by several stitches of continued catgut suture This maneuver leaves the uterine wall bare for the distance of one or two centimeters above the internal os The vaginal wall is now united directly to that of the uterus by means of three strong silk sutures, the first of which passes through the uterine wall about three-fourths of an inch above the internal os, the second at the internal os, and the third about the middle of the uterine neck Superficial catgut sutures close the spaces between the silk sutures The silk sutures are allowed to remain *in situ* three months There is no doubt a possibility of injuring the bladder in performing this operation The injury may be either direct or through subsequent inflammation of the tissue between the uterus and the bladder I saw in Landau's Clinic, in Berlin, one such case There was extreme sensitiveness and other evidences of vesical inflammation The patient had been operated upon by Dr Vogel several months before

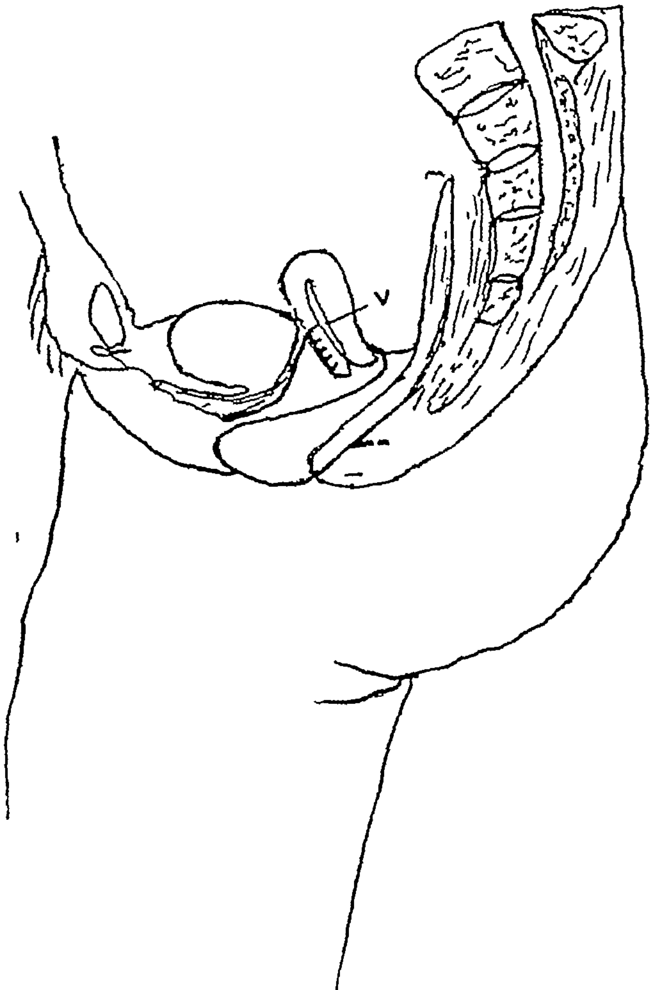

Fig 7—Mackenrodt's operation Sectional view V, anterior vaginal wall bent upon itself and secured to uterus Upper part of vagina distended

The operation is new and therefore its value is unknown Martin has great hopes of its efficiency and says he has had no complications following it In the first thirty of his cases pregnancy afterwards twice supervened and ran a normal course Mackenrodt mentions one normal pregnancy in his cases It is quite probable that this operation, like all other new operations, will be illy done and overdone As a result we shall have much conflicting testimony as to its value

INFLAMMATION AND MICROBES

A LECTURE

BY JOHN D KALES, M D

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A complex but interesting series of phenomena are known to take place when certain living vegetable cells invade an animal tissue and compete with its living units for nutrition The life and well being of invading bacteria usually means death to the neighboring tissue cells This issue is resisted most vigorously by those cell elements immediately concerned in protecting the organism In the more simple forms of life these influences are less complex and are confined to so-called immediate effects, while in the human organism we have not only the immediate but also the remote influences of active efforts at resistance It is evident that the more complex the organism the more multiple and intricate will be these manifestations A complex and highly differentiated organism has a temperature regulating mechanism which is easily deranged It has numerous organs whose secretions and functions may be altered, a highly developed nervous system which responds quickly and often violently to unusual impressions Then taking the human organism as a type of the most complex, we will note not only the immediate or local effects of an inflammation, but also the remote or general effects These latter may be even more striking, comprising as they do, a series of reflex phenomena like convulsions, fever, changes in the secretions both qualitatively and quantitatively from the skin, kidneys, salivary glands, etc

Of late, investigations regarding inflammation have been made comparatively Metschnikoff's studies of what we might call the evolution of inflammation, have been the most notable contributions ever made to the subject They demonstrate the potency of studying a subject comparatively Such study has shown that the lower forms of animal life exhibit the inflammatory phenomena, and what is most interesting to the student they express it in its lowest and simplest terms As we advance to the vertebrates and rise to the mammalia, one accessory after another is added, until the phenomena as manifested in the human species is seen By thus studying the evolution of a complex process, we are enabled to give to its various phases their respective values Values that may be founded upon duration, persistence or fundamental characteristics Phagocytosis is the most persistent and fundamental phenomenon seen in the comparative study of inflammation

To define inflammation is perhaps a useless proceeding, unless we can make the definition a basis or text for its analysis Briefly, we might present it in the following words as A *reaction* which living tissues exhibit to *irritation* or *injury* According to this view the more obscure portion of the subject turns upon the significance of the word *reaction* The expression, *irritation* or *injury*, conveys a clearer impression to the mind, and bacteria become linked with the subject at this point The reaction process belongs to living cells and may be divided into a *defensive* and *constructive* stage The latter might not be called inflammatory in a strict sense of the word However, the end and aim of the defensive process is to arrive finally at the constructive In a given wound there may be much or little to defend but the leucocytes are poured out notwithstanding, if not needed for defense they proceed immediately to construction Defense and construction are supplementary in a process which aims ultimately at restoration In both steps the same elements, leucocytes and phagocytes play their parts

So far as defense is concerned, phagocytosis is the most active and striking phenomenon It is observed in the lowest and slightly differentiated forms of life, as well as in the highest Comparative study shows that phagocytosis is less active in man than in the lower animals A high degree of tissue differentiation evidently makes phagocytes less numerous or renders them less effective This is perhaps one of the sacrifices the human and other highly differentiated species have to make for the advantages of possessing highly specialized tissues

The next step in the defensive process differs from phagocytosis, inasmuch as it is only seen and studied in the more highly organized forms of animal life It is in fact a concerted activity, a combination of forces whereby millions of phagocytes and leucocytes do through organization what a single one would do in simple phagocytosis Instead of one by one englobing bacteria, they by concerted process surround the lot Thus we get the so called circumscribing action or union of forces with one intent By it the contest is made to take place within boundaries This circumscription is in fact a measure of last resort, simple phagocytosis having failed The end to be attained here is the formation of an abscess The inflammatory products and irritant materials are hemmed in by the so called pyogenic membrane or wall extemporized for the purpose of limitation The very natural result of this confinement is the production of those classical symptoms of inflammation, pain, heat, redness, swelling, and loss of function These symptoms appear more or less prominently according to the results of the defensive process The contents of an abscess consist of serum, leucocytes, phagocytes, bacteria and chemic toxins with possibly some fibrin and tissue *débris* Clinically this material is known as pus In the formation of the typical abscess, the aim is one of limitation An abscess is in a measure destructive, but the damage is confined, and thus the sacrifice of a part is made often for the benefit of the whole organism The circumscribing action is less necessary on surfaces, it does at times occur and is then marked by a barrier of deep induration

The defensive process has been seen to consist in a phagocytosis and a circumscribing action, but the same call which summoned the leucocytes to the defensive, leaves them upon the site of injury for the purpose of reconstruction Defensive and constructive activity seldom go hand in hand, they follow one another, but the way must always be cleared before repair can begin Construction takes place also with the help of the fixed connective tissue cells and it occurs promptly, providing the energy of the tissue cells has not been entirely exhausted in the defensive struggle Construction implies organization or regeneration It has been stated that specialization or the higher evolution of the tissues of an organism was accompanied by a diminution of phagocytic activity, so the same higher development entails a feebleness in the regenerative or reconstructive function

We have therefore to consider the human organism as having purchased its higher development at some considerable cost, it being in consequence provided with less active phagocytes for defense and less active leucocytes for construction In the lower animal kingdom the regenerative function is so active that not only are injured organs successfully repaired, but lost limbs and processes are reconstructed A lobster having lost his claw can grow a new one The tadpole may regenerate a lost tail, etc

In man, mesoblastic or connective tissue almost monopolizes the regenerative function It is the one tissue that has suffered the least differentiation Phagocytes and leucocytes are derived from it, and are very largely the agents through which it works In man a wound or loss of substance of the liver or brain is replaced by fibrous or mesoblastic tissue, the liver or brain cells are too much specialized to be capable of self repair Observation on all the other tissues of the human body shows a striking feebleness in this regenerative capacity

Having defined inflammation as a reaction which arose from an irritation or injury, we have now to investigate this irritation Primarily we can conceive of irritation or injury only as arising from mechanical, chemical or thermal causes Considering chemical causes only, these may operate directly or indirectly When *directly*, it can be proved that inflammation may arise through, for example the application or injection into living tissues of some chemic irritant, germ free This process is chiefly one of experimental interest The mode of introducing a chemic toxin *indirectly* into the tissues through the agency of bacteria has the widest clinical significance The direct mode is often misleading, for the direct use of any chemic irritant creates in living tissue a *locus minoris resistentiæ* and may thus ultimately induce bacterial invasion The direct method should, however, have nothing to do with bacteria, though it would be a purely chemic matter whether we injected aseptically into living tissues croton oil, turpentine or phlogosine, an alkaloidal product of certain pyogenic organisms If these substances are used we get substantially the same result as in microbic inflammation, though without microbes we miss their peptonizing action which yields the typical fluid pus, while that called forth by chemic irritants is more or less coagulated and semi-solid It has been called puruloid by some writers

Clinically, bacteria acting as agents for the generation of toxic and irritant material, are by far the most frequent causes for inflammation Their products are the acting or exciting causes and these are usually alkaloidal or belong to that class known as albumoses or toxalbumens Hence they fulfill the idea that the irritant must be a chemic one The mechanical influences of bacteria were at first given considerable prominence, but later and more careful investigation, has shown this to be too inconsiderable to notice Even in so severe a disease as septicemia, mechanical effects account for nothing

And again the idea that bacteria simply deprive the tissue cells of their accustomed oxygen and food has been shown to be of altogether minor importance The action of certain bacteria for harm is an aggressive and strictly positive one

In certain forms of chronic inflammation, as for example, the interstitial inflammation of solid organs like the kidneys, liver, spinal cord, etc , there exists an overgrowth of the connective tissue framework There may at first be hypertrophy of the whole organ as is often the case in the early stage of chronic interstitial hepatitis This is soon followed by an atrophy and degeneration of the functional cells, which advancing more rapidly than the formative process in the framework leave the organ finally much contracted Contracted, moreover, because of the property of the new-formed connective tissue to shrink after the manner noticed in cicatrices Such conditions as these, if they are rightly called inflammatory, and it would seem best to call them so, are brought about usually by some chemic irritant whose influence is exerted upon the tissues during a long period of time Such chemic substances usually act directly upon the living cells They may be the products of some recent bacterial invasion like diphtheria or more remotely syphilis Again they may have nothing to do with microbes, and be the products of the living tissue itself, *e g* , uric acid in the lithemic or bile in the cholemic conditions Finally, it is seen that substances derived from without are equally capable of producing interstitial change, *e g* , the prolonged use of alcohol and the effects of chronic lead poisoning

The influence of these irritants are in the above instances just enough to provoke connective tissue proliferation, while they damage the more highly specialized or functional cells of an organ

Once more it is seen that higher organization has its disadvantages, in that it ultimately gives rise to cells whose resistance to detrimental agencies are inversely proportioned to their degree of evolution or specialization A highly specialized cell does better work than one less evolved, but as a compensation it needs greater protection, for it succumbs very readily to harm and there is left little or no prospect of restoration

We know of large numbers of pathogenic bacteria but they do not all excite inflammation Inflammation is in many cases a protest on the part of tissues against the toxins of an invading organism Unfortunately, perhaps, there are some bacteria and toxins that provoke no tissue protest It is well known that there are many toxic alkaloids that create no inflammatory reaction , *e g* aconite, strychnin, morphin, atropin, etc The toxins of hydrophobia and tetanus call forth little or no defensive action on the part of the tissues Very susceptible animals may offer little or no inflammatory reaction to anthrax, thus in man we have occasionally acute miliary tuberculosis Both illustrate conditions where there is no local protest or circumscribing action, but as a consequence a quick, general, systemic invasion The insidious character of an infection without distinct local inflammatory manifestations is often seen in syphilis The local lesion being occasionally too trifling to notice Man, for example, is not very easily infected with anthrax, hence we expect a vigorous local reaction, and this is usually the case in malignant pustule

Infection may take place with or without resistance, but inflammation never occurs unless resistance is offered As tissues approach death their inflammatory vigor diminishes at an equal rate In all inflammation, antagonism is necessary Cell antagonism is most typically exhibited toward living microbes, and less toward toxins and chemic irritants

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THE CENTRIFUGAL MACHINE IN SPUTUM EXAMINATIONS

BY WALTER G HUDSON, M D

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Owing to its precision, the diagnostic aid given by a microscopic examination for tubercle bacilli of the properly stained sputum has made this procedure very popular The only difficulty lies in the fact that, by the old methods of examination, we may sometimes unconsciously select a portion of the sputum that contains no tubercle bacilli, if the entire specimen contains but few

To eliminate this source of error, I have of late been using with much satisfaction the method advocated by Biedert, *employing in addition the centrifugal* machine Where possible, I secure all the sputum raised in twenty four hours, and add some potassium hydrate solution , this, with the aid of heat, dissolves any lumps that may be present and after a time the mixture becomes quite thin It is then diluted with water so as to lower the specific gravity, and introduced into a large centrifugal machine The latter is then run at a high speed for a half hour, which throws down all solid particles bacteria included, and the specimen to be examined is then taken, by means of a pipette, from the bottom of the conical part of the tube

I report the following case to show the usefulness of this method

About a year ago I saw, with a colleague, a dispensary patient of his, Miss M F , aged 18, who had been suffering for some time with a cough, with slight watery expectoration At times she had sweats which were not profuse and did not occur often Temperature 99, pulse 92, tongue coated white She was anemic, but not emaciated Both parents were living She had originally come for a tonic, because her friends told her she looked pale Happening into his room at the dispensary one day, my friend casually asked me what I would give, as she had not improved under treatment

Upon hearing the history, I asked for and received permission to examine her chest The only abnormal physical signs were on the right side where there were some mucous râles, and near the apex I heard a slight pleuritic friction sound, but it was so slight I did not succeed in convincing my friend it was there The girl admitted that she sometimes had pain in that region, "muscular rheumatism," she called it Neither of us could detect any consolidation

Dr —— was positive that there was nothing tubercular about the case, as he had examined the sputum himself However, as we were both greatly interested in the subject of tuberculosis, he secured another (morning) sample of sputum, and we examined it together at my laboratory Out of eight slides examined, we found two tubercle bacilli, both of which were in the second preparation Dr —— insisted that these might be an accidental contamination from the air, so to decide the question he obtained all the sputum of twenty-four hours, which I subjected to the above process Result, the first and only specimen examined *contained seven tubercle bacilli in one field*, and several fields contained four or five

Two months later, I subsequently learned, during which she had greatly improved on codliver oil and a highly nitrogenous diet, this patient had a fall, striking her chest against a pail, this started up an acute form of the disease from which she died six weeks later

While this is only one case, it is still a significant one, as the method of examination cleared up the existing doubt, and led to the adoption of a course of treatment that would probably have been successful had not the girl met with the unfortunate accident which we both felt satisfied caused the disease to assume its virulent form

Where the bacilli are easily demonstrable by the ordinary means there is no call for this method but since the above experience I should hesitate to say that a given specimen was not tubercular until it had been applied

73 West 131st Street, New York

POST-NASAL HYPERTROPHY IN ITS RELATION TO HAY FEVER AND OTHER DISEASES

BY W H WEAVER, M D

The ganglionic system presides over the functions of secretion and excretion nutrition and circulation as well as involuntary motion These ganglia, composing the "sympathetic system," also give warning through their intricate network of connecting nerve fibers, of abnormal conditions The warning may be sent to the same organ in which the irregularity occurs, or it may be sent to a neighboring organ or to one quite remote The correlated action of organs and tissues is fairly well worked out Diseases apparently neurotic in origin have frequently been proven to depend upon some local irritation It may not be possible in every case of a certain disease to find the local origin, or to remove it when found, but it should at least be looked for before valuable time is *wasted in treating symptoms*

Dr J N Mackenzie has described what has been termed 'Mackenzie's sensitive area," *i e*, the posterior ends of the lower turbinated bodies and the surface of the septum opposite The *sensitive area* of the turbinated body is usually hypertrophied and may be called the sensitive hypertrophy It may be seen in most cases by posterior rhinoscopy, having a granular appearance, pale and large The shortest branches from Meckel's ganglion supply this area Stimulation or irritation of this area through these branches and the irritable ganglion may be reflected in any or all of the ways mentioned, *for example*, to the nose producing congestion and discharge, to the eyes producing itching of the eyes and lacrymation, to the bronchial tubes producing asthma This tissue becomes very sensitive to sudden changes of body temperature, receiving a portion of the blood driven from the surface, swelling enormously, and absorbing septic germs, which set up a new attack of rhinitis, commonly termed, "catching cold" This granular hypertrophy is also irritated by odors, dust and pollen of ragweed or other plants The impression made on the ganglion is reflected through its various branches, producing in turn the symptoms of "rose cold" or hay fever, through the descending palatine branches, causing itching of the roof of the mouth, most often referred to the point where the nerve emerges from the posterior palatine foramen, as well as through the naso palatine nerve at the anterior palatine foramen behind the incisor teeth, through the internal nasal branches, causing engorgement of the erectile tissue with the profuse discharge of mucus, through the upper posterior *branches, the pharyngeal*, and a few branches from the vidian nerve to the mouth of the Eustachian tube and pharynx, producing the itching of the ears and throat, tinnitus aurium and pain in the ears, through the branches *to the ophthalmic ganglion, producing* the intense eye symptoms observed in many cases, through the branches of the fifth nerve, producing different neuralgias in its domain, through the cervical sympathetic ganglion, producing hay asthma and dyspnea *Thus the symptoms of hay fever* are shown to be dependent on the *distribution of the branches* from Meckel's ganglion and its connections, irritation of which results from this sensitive hypertrophy In the milder cases of hay fever, *the symptoms of asthma* and dyspnea may be entirely absent, as the reflex action is not so intense and does not extend to the more remote organs

Again, some of the most intractable cases of asthma are cured by removal or cauterization of these hypertrophies, removal of polypi or other intra nasal irregularities which irritate this sensitive area

It may *be said, then, that in cases of tendency to catching cold,' hay fever and* asthma, *the cause* is local in a great many cases, and as a local lesion it should be treated After the local irritation has been removed and the symptoms still remain, then it will *be time to look for the origin elsewhere* According to Dr W H Daley, we are justified in looking upon hay fever as a pure neurosis only when the affection persists after the removal of the local nasal disease

In the case of hay fever, it is said by many authors that local treatment of hypertrophy or other diseased conditions of the nasal mucous membrane will cure a great many cases The statement is too general to result in much good to the patient When every abnormal condition discoverable by anterior rhinoscopy has been corrected, including Sajous' *sensitive areas*, and hay fever develops as before, then examine posteriorly, remove the granular hypertrophy *and the case recovers during the same season* The intensity of the symptoms is hardly any reduced by anterior treatment and the result is that the patient becomes disgusted and believes what others have told *him,—that hay fever can not be cured*

Also, a great many of the worst symptoms of catarrh are quickly relieved if its treatment begins posteriorly The chronic congestion of the turbinals subsides, as well as the profuse discharges The bodies are then left to their proper sympathetic influences which regulate secretion of fluid and the other functions of the nasal mucous membrane

It has been shown that when simple hypertrophy is the cause of the nasal obstruction and the bodies are cauterized deeply, their contraction is often so great that inspired air is not properly warmed and moistened, the throat becomes dry, and the larynx is involved, in which case it is a question if the patient is not in a worse condition than before In catarrhal conditions not hypertrophic, deep and destructive cauterization is never necessary and does actual harm All these results are easily avoided by the removal of the source of irritation to the sympathetic ganglion before any further measures are attempted A great deal of time will be saved to the patient, and satisfactory results obtained, if the treatment is carried on with a proper idea of the sympathetic influences reflected through the spheno-maxillary ganglion Simple "hypertrophy" or engorgement is not pathologic but reflex I believe that deep linear cauterization for the purpose of button-holing the membrane to the bone and thus prevent erection of the turbinated tissue is wrong in theory and barbarous in practice

I have frequently seen patients who have been treated and cauterized freely for a period of two or three years, until they had concluded that there was no benefit to be derived from the treatment of catarrh and that this so called radical treatment was also a failure, and who assured me that the only pronounced improvement they had ever obtained was from treatment of the posterior ends of the lower turbinated bodies

This sensitive area of Mackenzie is also a causative factor in the production of migraine in a certain class of cases which I will describe, and possibly in others It is well known that stimulation or irritation of one spot or nerve, through correlated action, produces vasomotor dilatation of another spot or organ The theory of the correlated action of the erectile tissues of the body has been pointed out in an article on "Irritation of the Sexual Apparatus as an Etiologic Factor in the Production of Nasal Disease," by John Mackenzie He shows that in a certain proportion of women with healthy nasal organs, engorgement of the turbinated erectile tissue occurs at each menstrual flow This physiologic sympathy becomes painful when the congestion of the turbinals is accompanied with migraine In two cases of this menstrual migraine under my care, cure resulted from the removal of the sensitive hypertrophies, and what was supposed to be entirely beyond the reach of more than palliative treatment was shown to be easily remedied The philosophy of migraine may be explained by the action of the sensitive hypertrophy on the ganglion, producing pain through the connecting branch to the sensitive fifth cranial nerve As a source of irritation to the nervous system and to the tissues of the respiratory tract, these sensitive hypertrophies are of the greatest importance and should be recognized and treated

In the treatment of these hypertrophies, all anterior obstructions should be removed, such as polypi deflections and hypertrophies, if necessary, in order to gain easy access to the post-nasal regions It is understood that the parts are to be brought under the influence of cocain for the double purpose of an anesthesia and widening the view After an application of chromic acid with a bent probe, the white and flabby body can be moved about and brought easily into view There will be increased discharge during the healing process, but from two to four weeks after the operations have been completed, the pharynx is entirely free from the troublesome collections of mucus If there is laryngeal irritation, it also improves for the same reason There is usually no pain after the acid treatment and no constitutional disturbance, but often there is immediate improvement The electric cautery is hardly applicable, except as a cautery snare, for the reason that it can not be handled with sufficient delicacy of touch No instrument is so little in the way and so easily handled as the silver probe charged with chromic acid No application of acid or snare can be made unless there is easy access I prefer the use of the cold snare when the growth is large enough to engage the wire, and if tightened slowly there is no great amount of hemorrhage When the growth is not so large, or if for any other reason an acid application might seem preferable, a steady nerve and a knowledge of the topography of the parts is necessary to make an accurate cauterization

Case 1—Mrs F , aged 35, has suffered from hay fever regularly since 1891 , attacks modified or absent while in Mackinaw Has also had severe asthmatic attacks for past two winters, "constantly catching colds" and very miserable Examination showed the posterior ends of the lower turbinates to be very large and sensitive They were removed with the cold snare last July During the season just passed she had no symptom of hay fever, and up to the present time has had no symptom of asthma or the usual attack of rhinitis During the year before, the turbinated bodies had been extensively cauterized from before back, but the posterior sensitive hypertrophies had not been touched and the previous season the attack of hay fever was not modified

Case 2—Mr S , aged 40, has had hay fever for the past eight years , also suffered from asthma most of the time At the beginning of the past season came for treatment, having the symptoms of a very severe attack of hay fever The treatment was begun with chromic acid cauterization of the posterior sensitive hypertrophies, one side at a time The improvement was immediate on the side first treated, then also on the other side after its treatment The asthma gradually improved and has since entirely disappeared There was also a ledge on the left side of the septum which was removed Anterior hypertrophies were some snared and others cauterized The recovery from most of the symptoms was immediate after the use of chromic acid

Case 3—Mrs P , aged 42, has suffered from terrific migraine for about three years, mostly at menstrual periods, although at times from over exertion, excitement and other irregularities of habits Examination, in March, 1894, showed enlarged posterior hypertrophies as well as hypertrophy anteriorly The posterior hypertrophies were treated first, followed by anterior treatment with the result of entire cure

I might report more cases of the same sort, but these will suffice to show that Mackenzie's sensitive area and the sympathetic nerve supply of the nose have more to do with the most distressing symptoms of catarrh, hay fever, asthma and migraine than they have hitherto received credit for

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ANTITOXIN IN DIPHTHERIA—RÉSUMÉ OF SOME REVIEWS

BY B BECKER, M D
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Report of 121 Cases of Diphtheria Treated at the City Hospital, Urban, by W Koerte—The first injections of serum were made in January, 1894, and were continued without interruption in all the children with diphtheria until the end of March In consequence of a want of the serum the specific treatment was suspended until June, when it was recommenced until July 21 Then a second interval came, until the middle of September, from which time a third series of treatment with serum from the factories at Hochst-am-Main followed The treatment, besides the use of the serum, was merely symptomatic In all cases the diagnosis was based on bacteriologic examination Out of the 121 cases treated with the serum, 81 were cured = 66 9 per cent , and 40 died =

3 1 per cent, that means exactly one third of the patients All the cases of diphtheria, treated from June, 1890, to Dec 31, 1893, 1,160 in number—showed a mortality of 45 1 per cent Between the periods of the antitoxin treatment (at those times when the serum could not be obtained) there was a mortality of 57 out of 106 cases = 53 8 per cent These results, although not as favorable as those reported by Roux and Ehrlich, are apparently in favor of the value of the new remedy For the exact estimation of these observations, however, it is necessary to divide all the cases in different classes, according to the severity of the course of the diseases Koerte distinguishes 1, *severe cases*, with grave intoxications (*Prognosis dubia vergens ad malam*), 2, *moderately severe cases*, with grave local disease but without symptoms of grave general infection, (*Prognosis dubia*), 3, *mild cases* Forty-three severe cases had a recovery of 41 8 per cent, a mortality of 58 2 per cent Forty seven moderately severe cases had a recovery of 70 2 per cent, a mortality of 29 8 per cent Thirty one mild cases had a recovery of 96 7 per cent, a mortality of 3 3 per cent

Of special importance is the observation of the effect in children under 2 years of age Out of fifteen children of this age seven died and eight recovered Tracheotomy became necessary in forty two of all the cases treated with serum, with twenty recoveries = 47 6 per cent, and twenty-two losses = 52 4 per cent The average losses after tracheotomy, performed under the same indications before the use of the antitoxin, were 77 5 per cent This remedy has therefore reduced this mortality by 25 per cent

None of the children treated with the serum before tracheal stenosis was present had to undergo tracheotomy Worthy of mentioning are the results of tracheotomy in diphtheritic patients under 2 years of age Out of 108 children of this age who were operated from June, 1890, to March 31, 1893, only ten = 9 2 per cent recovered, while out of eight cases who were treated with the serum three = 37 5 per cent recovered

Behring and his co laborers have emphatically declared that a satisfactory result of the antitoxin injections can be expected only during the first few days of the disease The earlier the treatment is resorted to the better the results Koerte's figures prove the correctness of this thesis Out of fourteen severe cases injected during the first three days, eleven recovered and only three died In twenty-nine cases the serum could not be used before the fourth day, twenty two of them died, seven recovered From the moderately severe cases, who were treated early, eighteen recovered and five died, while from those cases of the same category who were not treated before the fourth day, only fourteen recovered and eight died

Nevertheless, an early treatment does not absolutely cure all the cases There are cases of diphtheria which produce a severe intoxication of the whole body so quickly that our treatment remains unsuccessful in spite of large doses of the serum Koerte gives a number of clinical histories of patients, who died in spite of early treatment with large doses of serum after a short time from sepsis, broncho-pneumonia, nephritis, paralysis and heart failure In a child, 1¾ years of age, which was brought to the hospital with an apparently mild diphtheria and injected with serum on the fourth day of the disease, the condition became worse and worse until the patient died from general infection Bacteriologic examination, however, developed the presence of streptococci only and no Klebs–Loffler bacilli

No disagreeable secondary effect could be observed by Koerte during his experiments with the serum Very conspicuous, however, was the rapid improvement of the general condition following the serum treatment

Although the reported figures seem to allow the formation of a very favorable opinion in regard to the serum treatment, Koerte seems to be rather indefinite in his conclusions He makes the remark "Bacteriologists say that antitoxin, if early used, will almost surely cure the *genuine* diphtheria They wish those cases excluded which are complicated by the presence of other bacteria or cocci In regard to this, I must say that we, as practitioners, when we talk about cure and treatment of diphtheria, must keep in view the clinical symptoms and appearance of the disease, and that under this well-known and fully characterized picture also those cases belong which are described as mixed infections, Every physician will declare such a case a severe one of diphtheria From this point of view it is at this time not probable yet, that antitoxin will cure *all* cases of diphtheria, in a broader sense Also the assertion that in an early and sufficient use of the serum all cases of genuine diphtheria can be cured is not proved yet There is the possibility that in various epidemics those cases of *mixed infection* are so frequent that they make a limit for the use of the serum In spite of the rather favorable results which I have related, a longer continued observation at the bedside only can bring a decision as to the value of the antitoxin"—(*Berliner Klin Wochenschrift*)

A discussion of the antitoxin was brought up at the Medical Association of Munich, after the hearing of reports of cases by Bucher, von Ranke, Seitz and Emmerich Ranke asserts that diphtheria at Munich is usually a severe affection Out of 1,048 cases treated during the last seven years, 49 2 per cent had a fatal issue In 575 cases operative interference, intubation or tracheotomy, became necessary The operated cases had a mortality of 65 2 per cent In December, 1893, the first observations were made with the serum The doses used at that time were too small, and the unsatisfactory results of the first series must be declared by this circumstance At the *post-mortem* examinations of injected children, a peculiar form of infiltrations of the lungs was observed, which otherwise is unusual in children, consequently a causal connection of these pneumonic lesions and the antitoxin was thought of, later on, Ranke convinced himself of the harmlessness of the serum, and he left the before named suspicion an open question The number of observations with serum at the children's clinic at Munich is too small to allow definite conclusions A series of nine children were treated with Aronson's diphtheria antitoxin Two of them died In another series of ten cases with only one death, Behring's serum had been used Although these results are remarkably good in comparison to those usually observed at Munich, we are not allowed to draw definite conclusions from them It may appear surprising that in those cases which came to *post-mortem* examinations, the local diphtheritic process had not been ended yet after twenty-two and twenty eight days, in spite of large doses of the serum Emmerich in his remarks laid stress upon the observation that in all the fatal cases of diphtheria at Munich, besides the Loffler bacillus also streptococci, staphylococci or the bacillus pyogenes fetid were found The following resolution was unanimously adopted by the Association

1 To give a positive opinion about the value of Behring's serum is not possible at this time, especially on account of he differences of diphtheria in regard to appearance and everity of the disease, only a longer and closer observation can have a positive effect It must be recommended, thereore, not to expect an absolute panacea, which suggestion should be given to the public also

2 Our experiences with the antitoxin are of such a kind that we consider it worthy of further investigations and trials, especially in clinical and polyclinical institutions, as those places the most fit for such experiments —(*Munchener Med Wochenschrift*)

Disagreeable After Effects from Antitoxin —Dr Cuyrim, physician-in chief to a hospital at Frankfurt-on-Main, published in the *Deutsche Med Wochenschrift* the cases of his two assistants who both had used the antitoxin on themselves for light angina—the one of a diphtheritic, the other of a merely catarrhal nature In the first case, the disease disappeared quickly, while convalescence was rather slow Six days after the last injection (two had been made of 10 c c each) an itching urticaria-like eruption was observed at the region of the injections The temperature was raised again to 39 5 Celsus Swollen and painful glands were found on the neck, under the maxilla, at the elbows and inguinal regions Headache and general feelings of sickness and discomfort On the third day, pain in knee and elbow joints, muscular pain and the feelings of severe sickness were observed Besides the urticaria, small, red non-itching spots were found at various parts of the body It was not before the eighth day that all these symptoms and fever disappeared Convalescence slow

In the second case, the patient had taken only one injection On the following day the place of injection was painful, the ability of walking was rendered difficult Three days after the injection, loss of appetite, sleeplessness, weakness and a peculiar sensation in the limbs were observed Two days later, severe pain of the neck, temperature 39 1 Celsus, disagreeable itching at the place of injection and at other places, swollen glands, sensation of severe sickness On the sixth day of the disease, paresthesia in both hands was noticed, likewise pain in both arms, which troubled the patient badly After the disappearance of all other symptoms this pain continued and was still present after fourteen days Cuyrim positively traces these symptoms to the antitoxin The injections had been made strictly aseptic

We find another case of secondary effect from the antitoxin, published by Lublieski in the *Deutsche Med Wochenschrift* A child of 8 years with diphtheritic affection of the nose and throat received three injections of Behring's serum No 1 (600 units) The local disease disappeared quickly and without trouble Eight days after the first injection, swelling and redness of both foot joints, especially at the dorsum, was observed On the following night an eruption like measles came out at the legs and arms, pain at knee, elbow and foot joints set in Temperature 38 Celsus in the evening The fever was still increased during the next few days, likewise the pain of the joints The child was apparently rather sick On the fourth day of the disease, the temperature reached 40 3 Celsus, the eruption appeared also on the swollen face Slow recovery

Four other cases of an urticaria-like eruption and pain of joints and muscles after the injection of antitoxin in diphtheria were observed and published by Scholz in the *Deutsche Med Wochenschrift* All these after effects were of a light nature, disappearing in three or four days

Prophylactic Inoculations with Serum —In a meeting of physicians of Alsace, held October 27, Dr Wick reported that he had made prophylactic inoculations in ten children of different families, in which he was treating cases of diphtheria Children over 6 years old received 2 c c, younger ones 1 c c of the serum Out of these children, two were taken sick on the fifth, and one on the sixth day after the injection with very mild diphtheria Bacteriologic examination proved the presence of the Loffler bacilli

At Konigsberg, sixty-four children in thirty-five families were inoculated by the University Policlinic as a prophylactic measure In the beginning ½ and later 1 c c was injected The diagnosis was based on bacteriologic examination in the diseased brothers or sisters Out of ten children, inoculated with Behring's normal serum, No 1, four had diphtheria out of eight inoculated with the six-fold Aronson serum, none, out of eighteen inoculated with the thirty fold Aronson serum, two, and out of twenty-eight inoculated with the sixty-fold Behring serum, one became diseased All the cases which were taken sick after preventive injections recovered and had the disease in a mild degree (*Deutsche Med Wochenschrift*)

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D, LL D

NEW ORLEANS LA

(*Continued from page 169*)

CHAPTER IV

Case 12—Yellow fever Wm Thompson, age 23, native of Germany has been in Louisiana eighteen months Taken sick in the country with intermittent fever, returned to the city after a few days, was seized with a violent chill, followed by continued fever until day of entrance into the hospital Large muscular man, blacksmith by trade Entered Charity Hospital October 27 Patient had been in bed twenty-four hours with fever before entering hospital

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 27		104		28		104 2°
28	88	98	28	20	104 °	105 °
" 29	86	88	26	26	103 °	105 °
" 30	98	96	30	22	103 °	104 °
" 31	80	86	28	30	102 °	102 6°
Nov 1	82	86	36	32	102 5°	103 8°
" 2	82	94	34	40	102 °	104 °
" 3	92	99	43	38	103 2°	103 °
" 4	90	94	34	40	100 5°	101 °
5	106	104	40	50	102 5°	102 °
" 6	106	118	36	88	102 5°	103 8°
" 7	126	129	35	56	100 °	104 2°

REMARKS

October 27—Was much excited face flushed gums red, tongue furred eyes injected, hemorrhage from gums some headache cannot bear the gas light great thirst ice in small fragments, milk and brandy diluted with seltzer water

October 28—Did not sleep during night relieved the bladder by the catheter urine scant and high colored, loaded with albumen, ordered sulpho carb of sodium ʒij in 6 powders, one powder every three or four hours

October 29—Did not sleep during night restless skin dry great pain in region of kidneys, no urine is passed ice cold injections caused the excretion of a very small quantity of light colored urine loaded th albumen Hemorrhage from the gums profuse, also free epis xis patient greatly alarmed and restless

October 30—No improvement takes little milk and seltzer water id brandy skin is still dry tongue dry and bleeding

October 31—Patient has not slept at all and is in a state of low delir m passes his urine and feces in bed lies in an apparently insensible ndition, but taking nourishment in small quantities when forced on him

November 1—No change, except for the worse still in an uncon ous state low muttering delirium cannot collect any urine passes e small amounts in bed, severe hemorrhage from stomach and lungs pectorates blood

November 2—No change in same condition

November 3—Loud stertorous breathing hemorrhage blood still ns out of his mouth

November 4—Continues to grow worse body emits a horrible ench expectorates blood blood oozes from nostrils and gums

November 5—Wild delirium, requiring two men to hold him in bed

November 6—Continues in state of wild delirium

November 7—Sinking rapidly died 1 a m, morning of Nov 8 1873, ith profuse hemorrhage

Post mortem Examination—Eight hours after death Body of a deep lden color mouth full of black vomit which trickled down the side the body bladder contained not more than ℥ij of light colored urine omach was filled with black vomit and capillaries were congested dneys congested and mottled liver of a nutmeg color and oily when st seen when washed and exposed to the air sections of the liver pre nted a true yellow color had yellow flabby and fatty old adhesion in ght lung blood thin and watery All organs showed capillary con stion Gall bladder contained but a small quantity of bile

Case 1—Yellow fever, complicated with pneumonia Wm hompson, large muscular man, blacksmith by trade, age 2, native of Germany Entered Charity Hospital, Ward 3 Oct 27, 1873 Has resided in Louisiana eighteen months ent out to Bayou Teche to work on plantation, after maining there two weeks, returned to the city, and after eing in New Orleans one week was taken with a slight ill, followed by fever October 27, the day upon which he ntered the hospital The following is the record of the ulse, respiration and temperature

Date		Pulse		Resp		Temp	
1873		M	E	M	E	M	E
Oct	27		101		25		105 5°
	28	88	98	28	29	101 °	105 °
"	29	86	88	26	24	103 °	105 °
"	30	98	96	39	22	103 5°	101 °
	31	80	86	25	30	102 °	102 5
Nov	1	82	86	36	32	102 5°	102 8°
"	2	82	91	31	40	102 °	101 °
"	3	92	90	13	18	103 2°	103 °
"	4	90	94	31	10	100 5°	101 °
	5	106	101	40	30	102 5°	102 °
	6	106	118	36	38	102 5°	103 °
"	7	126	121	35	36	100 °	101 2

REMARKS

October 27—Very much excited face flushed eyes injected gums ed cannot bear gas light hemorrhage from gums entered evening of ctober 27 pain in head and back hot skin restless anemia.

October 28—Tongue very red at tip and edges bled from nose at 1 p and 7.30 p m complains of some pain in forehead lumbar and epi astric regions and extreme capillary congestion foul breath and odor

October 29—Complains of intense headache and sleeplessness epi astrium tender upon pressure and painful great pain in region of idneys suppression of urine

October 30—Albumen and casts in urine jaundice capillary con estion did not sleep during night hemorrhage from gums

October 31—Jaundice capillary congestion prostration suppression urine ice cold injections cause the passing of some urine loaded with lbumen

November 1—Intense jaundice

November 2—Profuse bleeding at nose blood oozes from tongue nd nose dullness upon percussion of lower lobes both lungs embar assed respiration

November 3—Bloody sputa blood oozes from gums

November 4—Bloody sputa and bleeding gums

November 5—Bloody sputa blood oozes from tongue and gums nd nose

November 6—Bloody sputa blood oozes from mouth and nose

November 7—Bloody sputa died at 12 p m

NECROPSY TEN HOURS AFTER DEATH

Body still warm, limbs, face and trunk full, surface f deep saffron yellow color, intense jaundice, lower ependent portions of head, neck, trunk and extremities mottled with dark purplish ecchymoses Black omit running out of corners of mouth Thorax leart firmer and more contracted and of not so lecided a yellow color as in uncomplicated yellow ever Under the microscope, however, the muscular ibers were loaded with granular matter and oil lobules The pericardium contained two fluid ounces f yellow serous fluid The right auricle contained golden colored clot, attached to the auriculo-entricular valve The formation of the clot appeared o be due to the supervention of the pneumonic inflammation The lungs were congested, lower lobes of both lungs solidified, in state of gray hepatization and infiltrated with bloody purulent fluid In the blood from the cavities of the heart, the majority of the colored blood corpuscles were normal in appearance, some were crenated and stellate in shape No bacteria or vegetable or animal organisms were observed in the blood from the heart Abdomen Liver mottled upon surface, yellow and purple and bronze Gives evidence of pervading malarial disease The yellow fever deposit of oil globules and yellow granular matter was very evident in many portions of the liver Under the microscope the liver was loaded with oil globules and granular matter and also contained black pigmentary matter Gall bladder relaxed and apparently empty, contained about thirty grains of thick deep green, almost black, ropy liquid, which under the microscope was found to consist of desquamated liver cells, granular casts of the biliary tubes, and cells from the walls of the gall bladder, discolored by the coloring matter of the bile The bile in cases complicated with malarial fever, presents a deep green color Walls of gall bladder greatly congested and of deep purple color Spleen enlarged to about twice the size and contained pigment particles Kidneys congested, when washed, of deep yellow color The bladder contained small quantity of golden urine, loaded with albumen casts and cells of tubuli uriniferi Stomach and intestinal canal congested Mucous membrane of stomach deeply congested

Case 2—Yellow fever, jaundice, severe pain in heart, slow pulse, death James H Campbell, age 48, native of New York, has resided in New Orleans twenty two years, occupation, carpenter Seized with pain in head, followed by fever Oct 17, 1893 Entered Charity Hospital October 21

Date		Pulse		Resp		Temp	
1873		M	E	M	E	M	E
Oct	21				28		103 5°
"	22	90	91	26	30	102 °	103 5°
"	23	80	80	31	30	100 1°	100 °
"	24	77	78	30	26	99 2°	100 1°
"	25	80	82	28	27	101 7°	103 °
"	26	95	100	28	30	101 °	104 °
	27					101 °	
"	28	60	56	42	40	99 °	99 °

REMARKS

October 21—Conjunctiva and skin very yellow tongue red at tip and edges coated and deeply furred in center gums very red patient emits a highly offensive odor

October 22—Jaundice nausea and vomiting bowels moist very offensive smell emitted by patient respiration rapid and panting dull and drowsy

October 23—Patient complains of intense pain in the region of the heart, expressive of fright in the evening partial suppression of urine ice cold water administered by enema

October 24—During this and the preceding day the tongue and mouth have been so dry that the tongue is protruded with great difficulty tongue furred and cracked very red at tip and edges intense jaundice tongue swollen speaks with great difficulty dull and lethargic urine contains albumen granular casts and detached cells Ice water injections into rectum has caused free secretion of urine

October 25—Tongue swollen cracked and bleeding jaundice intense upper surface of tongue red and furred, under surface purple

October 26—There has been a marked rising temperature

October 27—Complains of intense pain in right hypochondriac region countenance anxious and disturbed jaundice

October 28—Pulse slow only 56 per minute

Died Oct 28, 1873, two or three hours after the last observation Died with slow pulse, low temperature and rapid respiration This patient entered in a state of intense jaundice and great prostration Pulse so slow that it could not be counted

Case 3—Yellow fever jaundice, urine contained albumen, rapid pulse, death A L W, native of Ireland, age 20, sailor, in port one month Taken sick October 22, and was sent to the Charity Hospital three hours after beginning of illness October 22 1874, 8 P M, pulse 125 respiration 35, temperature of axilla 104.2 degrees October 23, urine contains albumen and casts congestion of capillaries, face very much congested, tongue red at tip and edges, furred in center, gums swollen and very red, great tenderness of epigastrium on pressure, 8 P M, pulse 118, respiration 30, temperature 102 2 degrees, 8 P M, pulse 120, respiration 32, temperature 104 1, urine loaded with albumen and casts, very scant October 24, nausea and vomiting black vomit, can retain nothing on his stomach, 8 A M, pulse 105, respiration 26, temperature 101 5 degrees, 8 P M, pulse 102, respiration 25, temperature 102 4 degrees, urine scant, could collect but one fluid ounce, loaded with albumen and casts, black vomit continues October 25, 8 A M, pulse 96, respiration 24, temperature 100 2 degrees, 8 P M, pulse 107, respiration 26, temperature 99 4 degrees, black vomit, urinary suppression, died shortly after last observation, October 26, 4 A M This case, which ran a rapid course, terminated with a temperature of the axilla but little elevated above the normal standard The diminution of the rapidity of the action of the pulse and respiration, also corresponded with the diminution of temperature

Case 4—Yellow fever, jaundice, formation of bed sores and large abscess on thigh, death at the end of four months from effects of abscess of thigh, the pulse during convalescence was more rapid than in uncomplicated cases of yellow fever, which pass to convalescence and complete recovery, *without the supervention of local inflammations* Emanuel Scheise, age 37, native of Germany Has been residing on Frenchman Street Entered Charity Hospital, Ward 25, Oct 29, 1873 On entering the hospital the patient stated that he had been suffering with a high fever for three days This fever was accompanied with violent pains in supraorbital, lumbar, and epigastric regions, and pains in the eyes and lower extremities At the time of his entrance into the hospital the patient was jaundiced, had fever, nausea, and hemorrhage from the nose and gums The capillary circulation was sluggish and the urine scant, albuminous, with casts of the tubuli uriniferi The patient was treated with the sulpho-carbolate of sodium, 20 grains every four hours, ice water injections to the rectum, brandy and water charged with carbonic acid gas, iced milk, beef tea and ice bags to epigastrium Although hemorrhage took place from nose and gums and jaundice supervened the patient passed safely through the active stages of yellow fever When, however, convalescence should have been established, the pulse and temperature continued above the normal standard, the patient complained of great pain in *left groin and thigh The limb became enormously swollen* A large abscess finally formed which was opened on January 7 and discharged over half a gallon of offensive pus The patient died February 24, after prolonged and intense suffering from the abscess and from several large bed sores, on the hips and over the sacrum The following is a record of the pulse, respiration and temperature

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Oct 30	100	98	18	18	103 6°	103 °
" 31	88	92	20	20	100 6°	101 6°
Nov 1	82	82	18	18	100 4°	101 °
" 2	78	88	20	20	100 6°	101 8°
" 3	100	98	21	24	103 8°	103 7°
" 4	100		22		102 6°	
" 5	100		22		102 °	
" 6	96	96	22	24	102 °	102 6°
" 7	86	84	20	20	102 4°	101 °
" 8	74	90	18	22	101 2°	102 °
" 9	70	80	20	22	100 6°	100 8°
" 10	82		20	24	100 4°	101 5°
" 11	70	110	20	24	99 7°	101 °
" 12	72	98	18	18	99 °	101 2°
" 13	85	98	20	22	99 2°	101 8°
" 14	100	98	18	18	100 8°	101 4°
" 15	94		20		100 4°	
Dec	90	110	20	24	100 °	103 °
Jan	100	120	24	28	101 °	104 °
Feb	110	140	28	30	101 °	104 °

REMARKS

October 30—Complains of great weakness, conjunctiva of eyes yellow, surface slightly yellow tongue very red at tip and edges, gums red and swollen, teeth covered with sordes, breath and odor of body very offensive, bowels constipated passes urine freely stomach irritable, tenderness of epigastrium hemorrhage from gums and nose thirsty, great dryness of mouth and throat

October 31—Urine contains albumen and yellow granular casts, and cells from tubuli uriniferi, eyes congested surface congested and yellow, pain in epigastrium, nausea relieved, conjunctiva of eyes yellow and congested tongue red at tip and edges, and heavily coated in the center, gums red and swollen, urine high colored

November 1—Diarrhea, stools are very offensive and of a light yellow color, jaundice, capillary congestion, eyes congested, red and jaundiced, complains of pain in right ear

November 2—Complains of severe pains in groins, urine contains albumen casts and bile

November 3—Pulse frequent, full and strong, pains in groins very severe, lymphatics swollen and painful

November 4—Pulse frequent and strong, has fever pain located in left thigh, which is swollen, painful and tender, albumen in urine, but diminished

November 5—Pain and swelling in thigh continue

November 6—Perspiring freely, pain in thigh very severe, it is necessary to use opium freely, the bowels are kept open and the patient supported with tincture of cinchona

November 7—Thigh swollen and hard and very painful thigh painted with iodin, tincture of bark and sulpho carb, alcoholic stimulants

November 8—Pain and swelling of thigh applied ointment, compound of tincture of iodin and opium, f ℥ij and sulpho-carb ʒij

November 9—Opium internally, with bitter tonics and alcoholic stimulants applied, together with the local applications to be productive of good

November 10—Pain less, improving, albumen in very small amount

November 11—Pain less, appears to be improving

November 12—Thigh not so painful, but still much swollen, patient sits up with some difficulty

November 13—Weak, but with some appetite

November 14—Pain and swelling in thigh continues, whole thigh from hip to knee swollen

November 15—Pain and swelling in thigh not so intense

December—During the remainder of November and during December swelling of leg continues also hectic fever, temperature rises from *100 to 103 degrees pulse 90 to 110*

January—On the 7th of January abscess of thigh opened, discharging a large quantity of fetid matter, pulse report 100–120, temperature 101 to 104 degrees

February—During the months of February and January had sores formed upon hips and on sacrum, hectic fever, loose bowels, rapid pulse, great emaciation fever, temperature from 101–104 degrees Died worn out by fever and suffering Feb 24, 1873

In this case the patient passed safely through a severe attack of yellow fever, and then fell a victim to one of the occasional results of this disease, namely, abscess The effects of the local inflammation in presenting the marked depression of the pulse are clearly shown in this case I have recorded many cases illustrating the marked reduction of the beats of the pulse during the stage of so-called calm or depression and of convalescence in yellow fever, and will only adduce the following

Case 5—Yellow fever, jaundice, black vomit, hemorrhage from bowels, urinary suppression, fatal issue Jacob Geir, *native of* Germany, age 39 years Several years in this country During the past seven months has been in the South, on a plantation near Baton Rouge The white laborers, as well as himself were all attacked with fever About two months before entering Charity Hospital, came to New Orleans, and was at that time suffering with malarial fever, which recurred at intervals up to the time of his admission Admitted to Charity Hospital, Ward 22, Nov 22, 1873, in the evening November 23, 8 A M, conjunctiva of eyes congested and yellow, skin of face and trunk yellow and congested, tongue red at tip and edges and furred in center When the fingers are pressed upon the surface white spots remain into which the blood slowly returns and restores the florid congested appearance due to *sluggish capillary circulation* Pulse 96, *temperature 103 5* degrees November 24, 8 A M, pulse 84, temperature 101 2 degrees Bowels loose during the night Urine scant, nausea, threw up black vomit at 9 30 A M Reaction of black vomit strongly acid, urine albuminous, with granular casts of urinary tubes and desquamated cells from excretory tubes ℞ Sulpho-carbolate of sodium ʒ iij Divide into six powders One powder every six hours 8 P M, vomiting of black vomit continues Since this has begun the temperature has progressively declined Pulse 82, respiration 30; temperature of axilla 98 degrees November 25, during the night passed by the bowels black excrements mixed with blood Only three fluid ounces of urine have passed during the last twenty-four hours Urine yellow, turbid, loaded with albumen, casts and cells Casts and cells of deep yellow color Great capillary congestion, dependent portions of body mottled and of a purplish yellow hue Hands and feet cold, the depression of temperature extends up to elbows and knees Pulse can be scarcely felt at wrists Temperature 98 degrees, pulse 70, respiration 26 6 P M, temperature 100 degrees, pulse 60, respiration 24 Black vomit and bloody black discharges from bowels still continues November 26, 8 A M, insensible, pulseless, temperature 98 degrees, respiration 20 Died at 11 30 A M

Case 6—Yellow fever, black vomit, death *Post-mortem* examination three hours after death, characteristic lesions of yellow fever Daniel McMenagale, age 18, native of Ohio, left his native State two years previous to the present attack, resided in Memphis, Granada and Vicksburg, came from the latter place, and has resided in New Orleans two weeks Has had chills and fever at various times during the past two months Entered Charity Hospital Oct 11, 1873, 6 P M I saw this patient for the first time at 8 A M, October 12 Intellect dull, patient unable to give a connected account of the present attack of fever Surface of body covered with petechiæ, gums red, tongue red at tip and edges, body of tongue coated with yellow fur Epigastrium tender on pressure Conjunctiva of eyes yellow and injected Tongue cracked and bloody Blood oozes from the tongue, and also from the gums During the night the patient vomited freely, and the matters ejected from the stomach contained flakes of dark blood Only a small quantity of urine, about two fluid ounces were passed, which contained albumen and bile, and casts of the tubuli uriniferi and excretory cells Injections into the rectum of ice cold water were ordered, and these appeared to restore to a limited extent the action of the kidneys The following table embodies the prominent symptoms

Date	*Pulse*		*Resp*		*Temp*	
1873	M	E	M	E	M	E
Oct 12	110	112	22	26	101 6°	105 6°
" 13	110	112	29	[illegible]	101 5°	101 7°
" 14	116	130	35	38	103 3°	103 [illegible]

REMARKS

October 12 —Body emits a foul odor surface covered with petechiæ Intellect dull tongue soft and cracked blood oozing from cracks in tongue tip and edges of tongue red center coated with yellow fur Conjunctiva yellow and injected Capillaries of surface congested giving a dusky mottled appearance Urine scant and contains albumen bile and casts of tubuli uriniferi and few cells Nausea and vomiting vomited matter streaked with blood specks Treatment Ice water injections Ice bag over epigastrium Brandy diluted with water charged with carbonic acid Iced milk and beef tea

October 13.—Patient dull and stupid action of kidneys feeble Condition of intellect due in part at least to failure of function of kidneys and retention of excrementitious matter Ice water injections have increased to a small extent the excretion of urine but the amount is still far less than normal Urine contains albumen bile and casts of tubuli uriniferi Patient has thrown up black vomit in considerable quantities Black vomit acid and contains urea Repeat cold water injections and ice to epigastrium

October 14 —Patient dull and lethargic in the exercise of the intellect Talks incoherently very restless attempts to get out of bed and speaks of going home Has passed a small quantity of urine albuminous and loaded with casts (granular and yellow) and also contains bile Great capillary congestion of surface jaundice spits up black vomit against the wall and over the bed like tobacco juice the black vomit appears to come up without any effort Can retain nothing upon his stomach

Died October 15, 6 A M

During the night of October 14 the patient discharged black vomit from his mouth, over his bed and against the side of the wall The black vomit appears to come up apparently without an effort Surface of the body of an intense yellow, with great capillary congestion Only a small quantity of urine was collected from the 12th up to the time of death, although the nurse states that the patient has "passed his water in the bed," after the administration of the ice water injections The application of bags of ice to the epigastrium did not arrest the nausea and vomiting The sluggishness of intellect and delirium increased progressively from October 12

Post mortem examination, three hours after death Body of a golden color, lower portion of a purplish, mottled appearance from capillary congestion Dark brown blood, black vomit, issues from the corners of the mouth Blood issues from the left ear Thorax Lower portions of lungs congested, otherwise normal Heart Muscular structures of heart present a yellow appearance, as in fatty degeneration of this organ Under a magnifying power of 450 diameters, the transverse striæ of the muscular fibers were found to be indistinct, and the fibrillæ were filled with oil globules, and granular albuminoid or fibroid matter, the oil globules were also deposited around the fibrillæ The albuminous substance of the sarcous elements of the fibers were evidently in an altered and degenerated state, being resolved into granular matter and fat Heart still warm, and its fibers filled with dark fluid blood, which coagulated and changed to the arterial hue when removed and placed in glass vessels Under the microscope, with a magnifying power of 450 diameters, the vast majority of the colored blood corpuscles presented a normal appearance, while a few presented a crenated and stellate appearance The blood corpuscles adhered together, forming rolls, as in the blood of inflammation The blood contained oil globules The dark pigment particles, as well as the colored corpuscles charged with pigment particles, characteristic of the blood in true malarial paroxysmal fever were entirely absent After careful microscopic examination, I discovered no living organisms, neither bacteria, fungi, algæ, or animalculæ of any description in the blood Reaction of the blood very slightly acid Fibers diminished in amount Clot voluminous and soft Upon standing, a small amount of golden colored serum, containing also some colored corpuscles, was pressed out of the *coagulum*, *the fibrin of the clots*, however, manifested very feeble contractile powers Pericardium greatly congested, the smallest vessels being distinctly seen, filled with red blood *This congestion of the pericardium* appears to be characteristic of yellow fever Abdominal cavity Liver presented a yellowish mottled appearance The mottled appearance of the liver was due to the congestion of the hepatic capillaries within the central portion of each lobule

The periphery of each lobule, in the area occupied by the portal system of capillaries, presented the deep yellow color characteristic of the liver in yellow fever Upon careful inspection of the surface, and of sections of this organ, many portions were found to be without any marked capillary congestion of the hepatic capillaries, and presented a uniform yellow color Upon a superficial examination of this organ, as it lay in its natural position in the abdominal cavity, the appearance resembled that of the liver of health, the color approaching Spanish brown, when, however, it was carefully examined, within and without, the characteristic change induced by the disease was evident, and when sections were subjected to the gentle action of water, and the excess of blood pressed out of the capillaries the color was uniformly yellow, as in the livers of those who had died at a more advanced stage of the disease

The depth of color of the liver in this case was due to two causes 1, to the great congestion of the hepatic (central) capillaries, and 2, to the presence of dark granular masses of hematin, scattered chiefly through the meshes of the portal system of capillaries, and which had evidently been deposited during the preceding attacks of malarial paroxysmal fever

It is probable that such cases as the one now under consideration have led superficial observers to assert that the liver presents no *characteristic lesion* in yellow fever Under the microscope, the liver was observed to be loaded with oil globules Fatty matter in the form of oil globules of various sizes, was accumulated within and between the cells The structures of the liver were firm, and the blood also changed to the arterial hue upon exposure to the atmosphere While, therefore, the microscopic examination revealed the effects of preceding malarial disease, at the same time, it also clearly illustrated the pathologic changes induced by the yellow fever poison The muscles of the walls of the abdomen and of the chest, when exposed to the atmosphere assumed a brilliant scarlet color, wholly unlike the dark color of the muscles in malarial fever

Gall bladder entirely empty, contained no bile Kidneys Congested and of a yellow color, resembling the color of the heart and liver The yellow color of the kidneys was especially evident when sections were washed under a gentle stream of water Sections of the kidneys, with Valentine's knife, examined under magnifying powers of various degrees, revealed the presence of oil globules, granular albuminoid or fibroid matter, and detached excretory cells within the Malpighian corpuscles and tubuli uriniferi The blood vessels of both the cortical and medullary portions were congested with blood Both the cortical and medullary portions presented a yellow granular appearance Many of the uriniferous tubes presented a yellow opaque appearance, being completely filled with yellow granular matter, oil globules of various sizes and detached epithelium This yellow opaque matter resembled in all respects that composing the casts of the tubuli uriniferi found in such abundance in severe cases of this disease In some tubules the epithelial cells could not be discerned, either because they had been detached and removed, or else because they were obscured by the oil and granular matter with which the structures were infiltrated In portions of the kidneys the oil globules were observed around as well as within the tubuli uriniferi

Bladder The urinary bladder contained about eight fluid ounces of golden or orange-colored urine Reaction of urine, acid, specific gravity 1012 Albumen present in considerable amount Under the microscope, detached cells from the tubuli uriniferi and yellow granular casts were observed in considerable numbers, but as usual there were no crystalline forms of urinary deposits No living animal or vegetable forms were observed in the urine Urine contained no grape sugar

Alimentary canal Stomach and intestines somewhat congested upon the exterior Mucous membrane of stomach moderately congested in some portions, and in others patches were observed of a deep red color, it was also denuded of epithelium in some parts

Black vomit The stomach contained about eight fluid ounces of thick, grumous, dark, purplish black, bloody looking black vomit Under the microscope the black vomit was found to contain some oil globules of the milk administered to the patient, with numerous black masses of hematin, altered blood corpuscles, epithelial cells and patches, and fibroid and granular casts of the mucous membrane of the stomach and broken capillaries

The black vomit, although taken from the stomach only three hours after death, and while the body of the subject was warm, emitted a foul, putrid odor, as of decomposed blood Upon careful microscopic examination I discovered no animalculæ or vegetable plants (fungi or algæ) in the black vomit Reaction of black vomit slightly acid

The spleen was enlarged and somewhat softer than in health, but much firmer than in recent cases of malarial paroxysmal fever

(*To be continued*)

Central Dispensary and Emergency Hospital, Washington, D C—*At the regular monthly staff meeting held on the 2d inst, the Senate Committee on appropriations has reported favorably on the item of $15,000 for maintenance of the hospital*

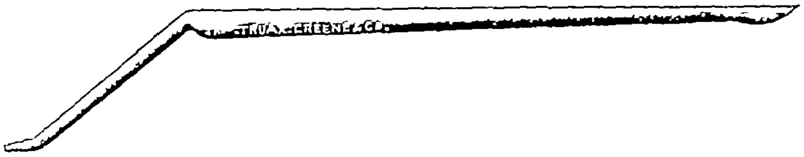
NEW INSTRUMENTS

A MASTOID GUIDE AND SEPARATOR

BY SETH SCOTT BISHOP, M.D
PROFESSOR OF OTOLOGY IN THE POST GRADUATE MEDICAL SCHOOL AND HOSPITAL OF CHICAGO

This instrument is so constructed as to serve two purposes in operations on the external auditory canal and mastoid process The end of the handle is fashioned into a periosteum separator for the canal, and is useful in Stacke's and other operations that require the separation of the integumentary canal from the bony meatus

It is used as follows After the incision is made behind the attachment of the auricle, and the mastoid periosteum is lifted from the bone by the large elevator as far as the border of the bony canal, this small separator is introduced between the posterior osseous wall and its periosteal covering with the convex surface of the instrument against the bone The end of the handle is then pushed carefully inward with the scraping surface directed firmly against the bone until it reaches the middle ear The instant it arrives at this cavity can be determined by the fact that resistance to the onward progress of the separator ceases at that point Now the cutaneous canal and periosteum are lifted as far as necessary by lateral movements of the scraping edges



In caries of the bone in the tympanic cavity great care should be exercised to avoid wounding the facial nerve, in case the Fallopian canal is diseased or partially destroyed This precaution, however, is just as necessary when knives are used, as is the present custom

This separator has several advantages over the knives It preserves the periosteum, it does not cut the cutaneous canal, it does not chip and hack like the knives, it is easier to manage, it is adapted to both large and small canals, and it reduces the number of instruments to be looked for and handled The scraping edge should not be sharp enough to cut the fingers of the assistant who holds it as a mastoid guide

Its advantage over the mastoid directors now in use is in the shape of its foot plate, which is tapering from heel to toe This form admits of its being introduced into the aditus or the antrum through an opening that is too small for the present broad instruments to enter Its wedge shape facilitates its passage through a narrow opening in the bone, when the latter is softened by caries, where the other guides refuse to enter

I have found by a series of experiments with this instrument that the facial nerve can be protected from injury by the chisels, gouges and curettes if the guide is held with the foot plate resting in the aditus ad antrum, and the handle so directed across the patient's cheek as to lie in a line with the lower border of his upper teeth or lip In this position the foot plate lies over the Fallopian canal, and must be held steadily in this position so that the operator's instruments will come in contact with the guide before they can penetrate deeply enough to reach the *Fallopian canal and facial nerve*

This instrument was made for me by Charles Truax, Greene & Co , of Chicago

Columbus Memorial Building

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill , Nov 9 and 10, 1894
(Continued from page 134)

Fourth Session, Saturday November 10, 9 a m

Dr H J Maynard in the chair

Dr A Rhu, Marion, Ohio, was called upon to act as Secretary during the temporary absence of Dr Webb J Kelly

Dr R S Harnden Surgeon Erie Railway Co , of Waverly, N Y , read a paper on

THE BEST METHODS FOR APPROXIMATELY DETERMINING THE AMOUNT OF DAMAGES SUSTAINED BY A TRAUMATISM FROM A MONETARY STANDPOINT

In determining the proximate amount of damages by traumatism from railway accidents, we will invariably find ourselves embarrassed, and as Dr Fitzgerald, of California, says, "involved in metaphysical distinctions and subtleties difficult of satisfactory application" Each case must be decided with reference to the circumstances peculiar and applicable to it First, I believe all elements not proximately the cause of such traumatisms, should be eliminated The railway corporation should not be held responsible for remote results, dependent upon aught else than actual negligence or fault of their own Certainly, if a person suffer from a traumatism, and at the same time from psychic shock the latter should be carefully considered or eliminated, and damages considered mainly upon objective indications upon the same lines followed by accident insurance companies Prospective claim for damages, coupled with the inevitable hypnotic element, render the effort to determine the amount of actual or approximate damages satisfactory to claimant, even upon a basis of pure justice and equity, extremely difficult

Sympathy for the injured and popular sentiment against wealthy corporations evolves suggestion, and prospective damages excites *auto-suggestion, the latter* stimulating the imagination and in time, if the case be not settled aggravating the actual objective conditions, and causing subjective and psychic disturbances *realistic* to the hypnotic mind of the patient, which are often serious in themselves and sometimes even fatal These well authenticated conditions exemplify the importance both to the injured and the company of early settlement

In my own experience as authenticating physician for insurance companies, I have often heard the expression by attending physicians that they found it extremely difficult to cure *their patients on account* of their expectancy of prospective claims or benefits, hence, delay in settlement of claims against the *company* is attended with increased and increasing liability on account of the development of neuroses and other conditions resultant, *it may be*, from suggestion and auto suggestion or hypnotism purely, but at the same time to the claimant tangible and *before the* courts often considered as proximate sequences of the original traumatism "A result may be physically secondary and consequential, and yet in legal contemplation be proximate "—(See Col Report, Vol iv page 345)

In determining approximate amount of damages it should first be ascertained whether the company's act is the proximate cause *of the injury* The *legal* test is—and we must constantly bear that in mind—' Was the injury of such character as might reasonably have been *foreseen* or expected as the natural result of the act complained of?" "A party is not, in law, chargeable with results which do *not naturally* and reasonably follow as the consequence of his conduct "—(Sackett's Inst to Juries, page 274)

The decision of the Supreme Court of Pennsylvania in the case of Ewing vs Pitts , Cin , Chi & St Louis R R Co , has an important bearing upon this point also While we are not to treat this subject from the standpoint of the claim agent we must bear *in mind*, as we proceed, the legal aspects which in all cases may be prospective We cite the above case reported in *The Railway Age*, Feb 19, 1892

The syllabus reads as follows "Permanent injury to the nervous system resulting from fear caused by a collision on defendant's road, due to defendant's negligence, in consequence of which the cars were thrown against the plaintiff's dwelling house in which she then was, will not support a cause of *action*, the permanent *injury is not the natural* result of negligence complained of" Continuing the court says '*It is plain from the plaintiff's statement of her case*, that her only injury proceeded from fright, alarm, fear, nervous *excitement* and distress There is *no allegation* that she had received any bodily injury If mere fright, unaccompanied by bodily injury is a cause of action, the scope of what are known as accident cases would be greatly enlarged *For in every case of collision on a railroad* the passengers, although they may have sustained no bodily harm, will have a cause of action against the company for the fright to which they have been subjected "

Thus we find, as a matter of law, damages to be reasonable must be the natural and reasonable result of the company's act or negligence The liability of the company having been already determined or admitted, we then come to the question of reasonable approximate monetary damages *We must now take into* account many circumstances, among them

Mental distress or anxiety

Psychic or hypnotic elements

Loss of time and its actual *monetary value*

The approximate *amount of permanent injury*

The approximate effects of traumatism upon the expectancy of life

Constitutional diseases and previous *conditions*

Prospective damage by impairment of earning a livelihood

Deception, means of

Importance of early settlement as a means of restoration to health, and the duty of the railway surgeon to place the matter *before the unfortunate claimant* in its true light

Many other matters might be mentioned, but the scope of this paper forbids

Among *the leading methods of examination*, we will first emphasize the *importance of avoiding* suggestive questions, (the importance of this will be explained fully in other portions of this paper)

Referring to instruments of precision, we will not often find their use necessary occasionally *in the hands of the* specialist, the dynamometer, audiometer or aesthesiometer may be found of service, and likewise the electric battery, but the use *of the latter* is exceedingly unreliable as a test of nervous or muscular excitability, if we are to accept the views of prominent authorities and it has been thoroughly demonstrated *that the* preservation of normal faradic excitability in a muscle, does not prove that the muscle is not paralyzed

1 Probably the first *circumstance of* importance in our examination and approximate estimate of damages, will be the mental anguish or distress of the claimant, consisting perhaps of grief and sorrow over the loss of a limb, *becoming* deformed, or suffering impairment of future earning capacity, etc The *courts* having decided such mental anguish and grief to be proper elements for damages (See case Schmitz vs St Louis, I M & S R Co) The court in this case declares "Mental anguish in a boy 9 years of age, consisting of grief and sorrow over loss of his limb, and becoming a cripple for life, is a proper element for damages in an action by him for injuries sustained by the alleged *negligence* of a railway company at a highway crossing," also that 'prospective *damage by the* impairment of plaintiff's capacity for earning a livelihood after his majority, is a proper *element in an* action for personal *injuries* by a minor 9 years old, although his *petition contains* no specific allegation in regard thereto, and there is no direct evidence *on the subject* "

2 We should consider the psychic or hypnotic features of the case, bearing in mind *that human nature would not be* what it is if expectant pecuniosity did not in some measure hypnotize the claimant There are many cases on record which we will not, for want of space recall, where slight and unimportant injuries developed various emotional and *hysterical symptoms, followed* by preferment of claim for damages, and where such psychic neuroses have developed into very serious *mental* trouble, and resulted in large amounts being awarded the plaintiff by the jury and followed by a complete restoration to health

Oppenheim, who is probably the highest authority we can quote says In his experience and *in his view*, psychical disturbance and change, amounting almost to insanity, have a more prominent place in the history of accident cases than is generally accorded them He speaks of anxiety growing into real pathologic entity If this be true of the German, then we should certainly find it more frequently among our blended nationality in this country who are, as a rule, of a highly nervous temperament Charcot says that 'traumatic suggestion" often takes the place of "oral suggestion" Sir James Paget declares the fault is rather in weakness of the will than in its perverse strength and that when the patient says I can not," it looks like ' I will not," but it is "I can not will" He says hosts of cases establish this fact that patients will not or can not make the necessary effort to resume work so long as the settlement of their pecuniary claim is unaffected

Apropos of this element, and perhaps disproving fraudulent intent, is the statement of Brouardel and Pouchet that they discovered in cases hynotized into convulsions the convulsive ptomaine, and in one greatly depressed and shocked an anesthetizing ptomaine, probably these ptomaines are the results of psychic shock Seguin says it has been known for several years that in perfectly healthy persons serious nervous symptoms may be produced by hypnotic or by non-hypnotic suggestion, he also mentions a source of persistence and aggravation of symptoms, strangely overlooked by nearly if not all writers, namely, "sympathetic care" In my own experience this has for years engaged my attention A long-faced, kind-hearted and sympathetic nurse or attendant I have found as fatal, in some cases, especially those of traumatic neuroses, as the bite of a cobra How many present ever saw a case of "traumatic neuroses" complicating a severe external traumatism? It rarely does so A passenger, drunk or asleep, escapes the symptoms of "traumatic neurosis" in great measure, at least it is so admitted by all writers They are not hynotized by the horrifying excitement of their environment

The fact that cases of psychic neuroses are long in recovering, or perhaps do not fully recover, Dr Seguin claims is an argument that there is organic lesion

Many cases of supposed malingering are, no doubt, honest types of "hypnotic neuroses" We should take this fact, now so well authenticated, into account, and consider carefully every feature of the case It is my opinion that cases of glaring fraud are not common, but a very large element of unconscious and unintentional fraud nevertheless exists in these cases of traumatic neuroses or subjects of auto-suggestion In private practice we are constantly misled by our neurotic patients, where no other element exists to influence deception than one of morbid exaction of sympathy or desire to cause their friends to share in their sufferings Patients will manifest the greatest surprise if it be suggested that they should resume work When a man has been prostrated by illness or injury and convalescence has set in he must make some voluntary effort to regain his former activity

3 *Loss of Time and Its Actual Value*—This will depend in large measure upon the conditions and circumstances attending each case We must consider in this connection only damages for actual value of time lost We shall refer, in a classification of injuries commonly met with, to the approximate value of time lost, etc The practical question is, What is the actual pecuniary loss? The party suffering from a traumatism may claim that they would not have had such an injury or accident with its attendant risks for a large amount, but we do not take into account solace of that character The courts have so ruled

4 *The Approximate Amount or Extent of Permanent Injury* —In the mind of the traumatized sufferer, this element we will usually find exaggerated The courts and juries have never imposed upon the surgeon that he should promise recovery, or contract to unite bones which have suffered fracture, and I believe it is also a fact that courts of law do not, as a rule, find against corporations or defendants in litigation cases, damages for aught but such conditions as cause actual pecuniary detriment, hence we must exclude deformities which do not involve loss of function and also eliminate fright neuroses, which, though permanent perhaps in character, are not properly to be considered as the proximate sequence of the company's negligence or fault

It is at once evident that a deformity or neurosis which involves a permanent impairment of function and resultant loss throughout the balance of the life of the party should be considered, and compensation corresponding to the pecuniary loss in each case advised Such cases are extremely rare, aside from the injuries attended with loss of limb, ankylosed joints and severe sprains, accompanied with rupture of tendons or ligaments We should exercise extreme caution in all other cases of alleged permanent injury, as the expectancy of monetary reward is notoriously a prominent factor as an incentive to fraud Thousands of well authenticated cases have been reported, and I have myself testified to permanent disability in more than one case and found, to my disgust and chagrin, that the payment of a handsome award for the alleged permanent damages was followed promptly by a rapid recovery A case in point, reported by my uncle, Dr Lewis A Sayre, will illustrate this feature, where a man was treated by him for a fracture of the spine, by suspension and plaster jacket, resulting in perfect recovery two years subsequent to a railway company's paying him a judgment of $30,000 for permanent disability

The mention of this case calls to mind the astounding fact lately published that the railways of Europe paid, prior to 1888, for spinal injuries alone, upwards of two million dollars In the light of the present day, and largely as a result of the brilliant and remarkable efforts of the members of the National Association of Railway Surgeons, the fact is made clear to railway managements that a large share of this money was fraudulently obtained The mimicries of spinal tenderness are often simulated, and it is now a recognized fact that spinal tenderness, by itself, has but little significance in reference to diseases or injury to the cord In considering the permanent character of alleged spinal injuries we should learn an important lesson from the observations and experiments of Manley upon seventy-one human beings and twenty two animals and also the experiments of the late Professor Watson, showing the extreme improbability and rare occurrence of permanent injury to the spinal cord from extrinsic or excentric injuries, also that injury to the spinal cord is exceedingly rare in traumatisms not involving fracture We should also bear in mind that many cases of functional paraplegia have been observed to recover after settlement of claim

In a digest of 400 consecutive cases of railway injury by Dr Howard J Williams, of Macon, Ga, 4 cases of apparent spinal traumatism occurred, 2 of which proved to be shams, 1 was attended with fracture and 1 with hemorrhage into the cord Among a much larger number of cases of railway traumatism in my own practice during the past twenty-two years, I have met with but one case of spinal injury and that was attended with fracture, followed at once by paraplegia, and death after several years

Pope, the eminent surgeon, says, "After tabulating 230 cases of spinal concussion from railway injuries, that the great majority of them were tinged with the coloring of imposition"

Pain in the region of the spine is not, in itself, indicative of anything more serious than muscular or ligamentous strain or "entasis" as it is designated by some French authors, and cystitis often ascribed to paralysis of the neck of the bladder, will often be found to be simply the result of residual urine while in the recumbent position Numbness and "tingling" may be symptoms of significance, although subjective, but is often due to local or external injury

5 *The Approximate Effects of Traumatisms upon the Expectancy of Life*—In determining this element or factor from a monetary standpoint we must take into account the age and previous conditions of health of the injured party and the degree of shock It is a well established fact that those past middle life suffering from severe traumatism, attended with serious shock, do not so fully recover therefrom, and it is a matter of common experience and observation that they do not attain to the usual period of longevity in many cases It will also be well for us to bear in mind the fact that a feeble constitution, or one enfeebled by disease, is more likely to be shattered or permanently injured and life itself or the expectancy of life cut short These and other like conditions bearing upon the expectancy of life, should be noted and considered in mitigation of amount of monetary award for damages, as the company is not responsible for conditions not naturally and actually the result of their negligence or fault If the life be cut short by reason of previously existing disease, or as a result of prior injuries in any degree, then we should eliminate to that extent, approximately, the liability of the company and the amount of award

6 *Constitutional Diseases Having an Important Bearing upon Traumatisms*—We will find it important to consider carefully the indications pertaining especially to phthisis and syphilis, bearing in mind the very large percentage of the population affected in some degree by these formidable constitutional conditions We will very often find serious traumatic results complicated by these insidious enemies of the human race, both of which hide behind the mask of secrecy Sagacity and tact are requisite to ferret out these and all

ther conditions, not actual sequences of the company's ault, that exact justice be done to both parties, and while he courts do not usually debar from compensation on account of these taints, we must consider them in order to orm a correct estimate of the probabilities of recovery

Herbert W Page, M A, M C Cantab, F R C Surgeons of England, in his excellent work on "Railway Injuries," 1892, says "That while victims of railway collisions are not by any means exempted from liability to suffer from every form of lesion of the spinal cord and its membranous coverings accumulated experience leaves no longer any doubt that *these grave results are most uncommon and that it is* the extra spinal structures which in ninety nine out of a hundred cases, bear the brunt of the violence and suffer from it" and 'that secondary and remote degeneration of *the cord, in cases where there has been no distinctive evidence* of injury, is very rare indeed" It would appear from these brief references to the phantom '*railway spine*," and the views of the highest authorities that we must not consider spinal affections or traumatisms even, when attended with syphilitic taints, as permanent conditions entitled to monetary compensation as such

7 *Prospective Damage, by Impairment for Earning a Livelihood*—This we referred to in the beginning of our paper, quoting from "A Page of Law," from notes of recent decisions by the courts in *The Railway Surgeon*, of Sept 11, 1894 We consider this as referring more particularly to minors It may be there is no present disability on account of the age of the injured, but in justice and equity we must consider his future and the probable impairment of earning capacity based upon the nature of the case, his environments, prospects, etc The subject is covered under the head of permanent injuries etc

8 *Deception*—Not in the language of sentiment, but of sober fact, who can measure the extent to which people will go in this direction, and we are not now speaking of auto deception but of the wilful malingerer? Herbert Page says "The means of deception are curiously alike" This, because they learn through the press of symptoms of disease and injuries, or acquire such knowledge by suggestion from friends, but we will only allude briefly to this element, its powerful influence in railway cases is notorious and in this day thoroughly understood

9 *Importance of Early Settlement*—We should exercise care in early settlement that no injustice be done the claimant The company can afford to be liberal with him and perhaps award him in excess of what even he himself or his friends might consider ample compensation for actual damage sustained They can afford this in many cases for the reason that, as a rule, they save money by so doing on account of many features already mentioned in this paper, but in my opinion, it becomes our duty not as claim agents, but as honorable members of an honored profession to make plain to the claimant the advantages to him from an early adjustment of his claim, not from a monetary point of view, but with regard to his own physical welfare What does money amount to, obtained after years of litigation and mental worriment which, in itself, often completely breaks a man down, compared with his health? He should be shown the physiologic and psychologic facts that are so well authenticated as tending to compass his physical and mental impairment It is certainly a well recognized fact that early settlement is, in many cases, a curative agent

CLASSIFICATION OF INJURIES

In attempting a classification of the more important traumatisms, those commonly met with in railway practice, and the best methods of obtaining the *approximate amount of* monetary damages, we must consider the fact, now so well established, that the consequences of railway injuries are more grave than those attending accidents in other branches of industry, this both on account of the nature of the violence producing them, and from the fact that nearly all railway traumatisms are septic when they come under the care of the surgeon Often the shortsightedness of the railway company in not fully comprehending the *economic* value of competent and skillful treatment at the hands of surgeons fully abreast of the times, and the failure to adopt a surgical service that would result in the selection of a staff of such skilled and experienced surgeons, results in a large monetary loss to the stockholders of such corporations I will only allude to two cases, among many thousands of like nature One, where $20,000 was obtained as a verdict, in lieu of $5 000 which would have been the probable limit if the injured man had received proper treatment The doctor in this case—for he certainly was not a surgeon—applied elastic constriction upon the proximal portion of the extremities for *forty eight* hours, and gangrene supervened with the medico legal results mentioned The other case I have already mentioned that reported by Dr Lewis A Sayre Decisions of the courts, holding the company responsible for conditions following—even where clearly the result of such improper treatment—indicate to us that we can not eliminate damages in any degree on that ground

1 We will consider compound fractures, as they are undoubtedly much more frequent than simple fractures in railway surgery and fraught with vastly more serious results *especially*, as we have indicated, in the hands of surgeons who do not practice aseptic surgery, and strange as it may sound to you experienced gentlemen, at least 50 per cent do not Only a few years since such conditions were *expected to suppurate and granulate, and "laudable pus"* was an indication of successful treatment, and the monetary damage and loss greatly enhanced thereby, it being generally conceded that a compound fracture would entail double the time in healing and be attended with many times the cost of medical attendance over a case of simple fracture Any rules or schedules of fees for such injuries made ten years ago, certainly would require revision at this time, as most cases of compound fracture treated under *strict aseptic principles* are but little if any more formidable or attended with much greater monetary damage to the claimant than in the case of simple fracture In a given case of compound or comminuted fracture in which we find the external wound has healed by first intention, differing but little if at all from the simple fracture, and where no great blemish or deformity remains, or any loss of function is apparent, we will not usually find it incumbent upon us to consider any element other than loss of time and its value, as permanent loss of function is very rarely observed following the conditions described, we should, however bear in mind the approximate amount of time requisite for repair and restoration to normal degree of useful function, remembering always that muscles are only restored to vigor and normal power after fracture, by voluntary effort and proper exercise Many a patient has become a hopeless cripple, simply because he 'could not will" or did not, at any rate, exercise his will power—as Dr Seguin puts it In these cases the courts seldom make any exception, therefore, we must often find it necessary to consider such conditions Under favorable and proper conditions we will be able to approximately determine the extent of lost time, from the observations of surgeons of large experience, but in individual cases it will vary somewhat

1, *Fracture of Femur*—From my own experience and that of others, I should consider in a case of compound fracture of the femur, that the degree of disability was total for at least six months, and partial six months, and at least four months of this time we should consider that total helplessness obtained, requiring an attendant In this case we should also make an exception to ordinary fractures, compound or otherwise on account of the inevitable shortening and the fact that but few people suffering this fracture escape some degree of deformity In estimating the monetary damage this must be considered and aside from this, I believe, as compared with other fractures of extremities in continuity the damage would be four fold It is comparatively easy for the claim agent to approximate the amount by methods familiar to him, and followed by the Pension Department, taking the simple fracture of the lower extremity or forearm as a basis or starting point Fractures of femur—intra capsular—are so exceedingly rare in railway practice—as aged people to whom they are common, are infrequent travelers—they need scarcely be considered but on account of the fact that they seldom if ever unite by bone, and that they are attended by serious deformity, the monetary damage exceeds by far that of any other, unless it be fracture of the pelvis

2 *Simple Fracture of the Femur*—Excluding cases of non-union—such fractures are exceedingly rare—and the cause of such non union, usually some dyscrasia, or lack of osseous element, the fault of the patient's own system, we will not usually find the damage much, if any less, than in the case of compound fracture of the femur, provided perfect asepsis has been followed out in the latter Taking into account, however, the greater expenses attending this fracture—about three times that of simple fracture of the arm or leg—and the greater degree of suffering, tedious convalescence, slow restoration of muscles to their former activity, and from the functional ankylosis of the joints, and the slight deformity resulting from what Prof Frank Hamilton declares the "inevitable shortening," we must consider them,

and approximately determine the damage, after taking into account the claimant's circumstances, earning capacity, etc as indicated in previous classifications

Fractures of the femur near, and involving the knee joint, on account of resulting ankylosis, and perhaps destruction of the joint, are much more serious, and should be classed with compound fracture of the femur not treated aseptically

3 *Compound and Simple Fractures of the Leg* —We classify them together, because as before stated, the approximate damage is, or need not be, under asepsis, but little if any greater in the former than the latter Fractures in this region are undoubtedly oftener attended with non-union and deformity than in the upper extremity, in other respects the conditions and considerations obtaining with respect to damages are about the same, possibly a slight difference as regards the period of convalescence, should be considered Fractures of the lower extremity, not having so perfect a circulation, process of repair does not so quickly or certainly follow Cases of non union or necrosis seriously impair the nervous system, and through the agency of sepsis break down the whole system and render the question of damages a serious one, and such cases if brought into the courts are often attended with judgments for large amounts This should be borne in mind If such conditions be attributed by the claimant to fright or shock at time of injury, then we should consider the decisions of the courts bearing thereupon which I have quoted, and for the simple reason that but very few coincide in their views with these decisions, I will encroach upon your time by quoting a recent decision from the *Medico-Legal Journal* of New York, of September, 1894 In Haile Curator vs Texas and P Ry Co, United States Circuit Court of Appeals 60 Federal Reports, 557, it was held that, "when a passenger on a railway train *receives no bodily injury* in an accident, caused by the excitement, hardships, and suffering resulting therefrom, the company is not liable in damages therefor, since insanity is not a probable or ordinary result of exposure to a railway accident" In the light of this and former decisions quoted, we must not consider fright or psychic shock Non-union or necrosis would not be the "ordinary result" of such conditions, and surgical experience has fully proved them to have invariably resulted from well known systemic conditions in the vast majority of cases

4 *Fracture of the Arm and Forearm* —In these fractures we will find the same general conditions to be considered as already mentioned in other fractures We should consider the difference in right or left, as the usefulness of the member is not so important a factor in the left as in the right arm A person suffering fracture of the former will not be so long disabled as in the latter consequently the element of lost time and its value differs materially Considerations of permanent injury will seldom attach to fractures of the arm or forearm, unless complicated with injury to joints, which will be classified separately

The slight deformity usually following fracture at the wrist (Colles fracture) if not attended with loss of function must not be taken into account, as such slight deformity is the "proximate and usual result," under the most approved treatment

The approximate amount of damages in case of fracture of the arm, is a proper basis of damages for other fractures, as it is seldom attended with permanent results and future impairment of usefulness The value of time expenses incident to it, and reasonable compensation for partial loss of function, beyond, say three months, which would be a fair approximate of the total disability, in a case, compound or simple, not complicated with loss of tissue or comminution of bone Under contusion and lacerated wounds, mention will be made of such cases

Fracture of ribs, not attended with perforation of lung, we will not often be called upon to consider Fracture of pelvis, when not fatal, is a formidable condition of as grave a character as fracture of the femur, and attended with permanent deformity and serious physical shock, followed by permanent impairment of health

Fracture of Fingers and Toes —Fractures either of digits or phalanges, is attended with loss of time proportionate to that resulting from fracture of arm, but function is sooner restored and approximate amount of such damage not to exceed one-half that of the latter

5 *Dislocations* —This class of traumatisms is quite rare in railway practice, and so seldom attended with permanent results that we may with propriety pass it over, only calling attention to undiscovered or neglected cases which, "in spite of" the ignorance or neglect of the surgeon must be considered as proximate, and damages attach by reason of permanent deformity and disability An exception should also be made of dislocation of the astragulus which is often attended with deformity

6 *Amputations* —In this class of traumatisms the same circumstances and conditions prevail as in fractures, with reference to loss of time, suffering, etc But as regards the degree of permanent disability and approximate effects upon the expectancy of life, there is manifestly a difference especially in the latter It is a well-known fact that amputations cut short the expectancy of life Reflex conditions are common in stumps, which often produce serious nervous and even psychic disturbances Amputation is the opprobrium of surgical art, and beyond the impairment for manual labor there is an element or sense of opprobrium, a mental anguish over the existing deformity In many such cases I have observed a hypersensitiveness so great that upon the slightest manifestation of pity, sympathy, or any allusion whatever by a warm friend even, he would forfeit their esteem The approximate amount of permanent damage for earning a livelihood, resulting from amputation of the arm or fore arm is taken by the Pension Department as a basis of all traumatisms and diseased conditions as well, from $30 to 45 per month being the pension allowed for such loss of arm or fore arm In this Government award other conditions, or resulting conditions, are not followed by any farther increase of pension, the minimum pension named being considered the equivalent of allowance for total disability, unless it be in cases of total helplessness where an attendant is required, and in that case the amount allowed is $72 per month From this, allowing for the conditions recognized by the courts quoted in the beginning of this paper it would be comparatively easy to approximate the total amount of damages in any case of traumatism, taking into account conditions mentioned heretofore and also the normal expectancy of life

The approximate and just monetary award in other amputations does not differ greatly, except as regards expenses in attending them The disability for the performance of manual labor would depend somewhat upon the avocation of the claimant but the loss of an extremity, either upper or lower is usually considered as total disability Amputation of digital or phalanged extremities should be considered, as the grasp of the hand is impaired, and the symmetry of the member destroyed, but as compared with the loss of the arm the damages would be very small, unless all or most of the digits were amputated, when the damages would reasonably be nearly as great as from the former

7 *Contused and Lacerated Wounds* —These, the most common of all railway traumatisms, are often serious in character and often complicated with injury to or fracture of osseous structures or injury of periosteum resulting in necrosis, and in many instances injury of peripheral nerves causing reflex conditions in remote portions of the body or brain Unless there be actual loss of tissue, we do not under modern asepsis often meet with such conditions resulting from traumatisms to the soft tissues Tetanus and tetany, now known to be of septic origin are almost unknown where sepsis is prevented by efficient antiseptic agents It is obvious that the railway companies are, in an economic sense, greatly the gainers by the wonderful results of such antiseptic treatment, as the expenses attending the modern treatment of lacerated wounds are not one fourth what they were but a few years since, and permanent injuries resulting are far less frequent

In any case of crushed or lacerated wound, we must observe the same conditions as in the case of compound fractures, considering the loss of time, etc, and taking into account the deformity or impairment of function, and also the uncalled for damages resultant from the mistake of the company of employing back numbers to do modern surgery

We would consider scalp wounds attended with fracture as serious, for the reason that they are so often followed by serious results Aseptically treated, these wounds when not attended by fracture, heal rapidly and seldom become elements in cases of claims for damages

8 *"Entasis" or Sprains* —We find this class of injuries to be about 10 per cent of all railway traumatisms, and will be called upon to consider them by reason of the permanent disabilities often resulting Sprain of the knee joint often terminates in inflammatory conditions, followed by destruction of the joint and permanent deformity or loss of limb Damages should be apportioned in such deformity as in other cases of impaired function, and so on Sprain of the ankle joint we often find a source of permanent impairment, the same conditions pertaining to the wrist joint with its ligamentous and complex articulation Rupture of tendons

or muscular tissue from sprains is met with, resulting frequently in permanent impairment of function but not often in serious damage

9 *Injuries to the Eye and Ear*—These we will send to the specialist who is employed, or should be, by the company, as "Uncle Sam" sets them the example

10 *Rupture, or Acute Hernia*—This is of infrequent occurrence, being met with in only about 2 per cent of all cases of traumatism Damages could reasonably and approximately be determined as indicated in amputation of the arm, from amount awarded by the Pension Department

11 *Scalds and Burns*—This class of injuries occurring only in 3 or 4 per cent of all cases, is often of serious character, and usually fatal The super heated steam of the engine boiler is a terrible agency and where a surface of the body equal to one square foot comes in contact with it for sufficient length of time to scald the true derma, death of the victim follows In cases not so seriously burned, great suffering results, attended with severe nervous shock and followed by serious deformity If the face be the portion receiving the impact of the steam as is frequently the case, if recovery take place the patient is subsequently found to be greatly disfigured The method of "blowing out the ash pan," is often attended with terrible results to the engineer or fireman, as I have myself in several instances observed In determining the approximate amount of damage in these cases we will usually only be called upon to consider the disfigurement, impairment or loss of eyesight, as the shock from burns is not, usually attended with permanent neuroses Many other conditions might properly be mentioned, but I have only sought to refer to the traumatisms commonly met with

This will conclude my consideration of this important subject and I am fully conscious that I have very imperfectly fulfilled the task allotted me "*The Best* Method of Approximately Determining the Amount of Damage Sustained by a Traumatism, from a Monetary Standpoint"

DISCUSSION

Dr JOHN E OWENS of Chicago—I find very little to say at this moment except perhaps to express my appreciation of the value of this paper It is comprehensive and covers a great deal of ground It has been carefully prepared, and I have been very much instructed by it At the same time in the discussion I would feel myself involved in an inextricable network were I to state the method of determining from a monetary standpoint the result from traumatism There are so many elements involved that each case must serve as its own or should be a problem of itself and must be decided upon its own merits I presume that the only discussion I ought to enter upon would be that from the standpoint of a surgeon or physician At all events so far as an adjuster is concerned I have had very little experience, and I have never encouraged it among the surgeons on the lines of roads that I happen to be interested in There are so many legal points involved in the case, so many circumstances that belong to the train service that I find, and I think others find it would be impossible for them to wade through all and arrive at a just legal conclusion, to say nothing of the conclusion the doctor or physician himself might arrive at When I asked a rather prominent gentleman something in reference to such matters, he said "Is this meeting one of claim agents, of lawyers or surgeons?" I told him in many cases he would find all these combined in the doctor and I believe that is the case in some few instances Again I believe that the two positions, the position of adjuster and the one of surgeon are somewhat incompatible with each other If it is known that the surgeon is not an adjuster the patient unwittingly and sometimes more palpably shows animosity which interferes with the easy adjustment of the case At the same time we can do considerable The surgeon or physician, if tactful, can do very much in disabusing the patient's mind of these various conditions of exaggeration and influence brought about by cupidity, which the adjuster or certainly the attorney for the company can never do

We never know what influences have been brought to bear on patients (plaintiffs) before they come into the court room To show you I am right in this matter, I will venture to read some letters which I have secured (*These letters were then read*)

Since being notified that I was to discuss this paper a little, I have talked the matter over with some gentlemen who are very familiar with the workings of the question, and I will read just a few extracts of a letter from an attorney connected with a railway

"Adopting the language of the clinics, every traumatism may be said to be manifested by two distinct sets of symptoms, the one objective, sensate, the other subjective, insensate, and the law following in the footsteps of surgery allows compensation for each of these manifested effects, combining the two in order to ascertain the extent of the physical impairment as a basis of determining the actual pecuniary loss which to some degree of correctness may be estimated, and at the same time looking at the subjective symptoms as a direct basis for compensation, the amount of which is wholly speculative, conjectural, and is measured only by human sympathy, the only check against which, if indeed there is any check, is what is called judicial discretion, which is but the sympathy of the judge set against the sympathy of the juror

"Thus the compensation which the law allows consists of two distinct elements One a compensation and reimbursement for pecuniary loss, the other a *solatium* wholly speculative in amount for physical pain and mental suffering

"Here the law in this as in all other classes of wrongs and injuries, seeks to reimburse the injured person in the pecuniary loss which follows as the natural and proximate result and consequence of the injury Into this measure of compensation, decreased earning capacity, loss of time money expended about the treatment and cure of the injury and restoration of the physical condition and all extra expense made reasonably necessary and proper by the injury, enter as elements The reasonableness and propriety of the expense will vary and be dependent upon differences in the circumstances and conditions of different persons according as they are refined cultivated, intellectual, accustomed to the conveniences or elegancies of life, or as they may be brutish, coarse ignorant, accustomed to hardships and poverty

"The locomotive engineer who earns by his occupation $2,500 a year loses both hands in a railroad wreck under circumstances which render the railroad company liable How much should the company pay on account of lost earning capacity? The simple answer in the abstract is "He should have such sum annually as equals the difference between the sum he would have been capable of earning each year during his life had he not been injured, and the sum he is capable of earning during the same period How much is that? How long would he live? If he would have lived to be 80 uninjured, yet how many years and up to what age would he have been capable of earning $2,500 a year as an engineer? Being engaged in such dangerous occupation, what was his life expectancy? Or being so engaged, what was his expectancy as to immunity from injury as one of the risks of his employment incapacitating him as an engineer and for which the railroad company would not be liable?

"The theory, the abstract is easy The question in the concrete, the present sum of money to be paid is the difficult thing to be answered

"It has been contended by some, and even by some judges, that such a sum of money should be at present paid as when invested at the usual legal rate of interest would produce an annual sum equal to the annual loss in earning capacity. According to this method, if the annual difference should equal $5,000 and the annual rate of interest 5 per cent , a jury should award $100,000 present damages Yet this is obviously unjust, for the reason that the injured person during his life would not have received as much as in all probability he could have earned uninjured, and at his death his heirs would be entitled to the principal which the ancestor would never during his life have been able to accumulate

"In my judgment the best method of determining this question, should be based upon, but in some respects different from the method of estimating the present cash value of dower estates, life annuities, or annuities for other fixed periods This method is the result of calculations as to the present value of a fixed annual value or sum continuing for an uncertain period The probable duration of the period being estimated from the life tables The method is fully explained in the Wigglesworth Tables, and others

"Thus a woman 40 years of age having a dower estate valued at $1,000, the present cash value of such an estate is only $630

"In estimating annuities and dower interest both terms of the proposition are fixed, one, however, being uncertain as to duration In the question now discussed neither term is fixed for the earning capacity of man is affected, strengthened or impaired by many other causes than his physical and mental condition And besides, while we have life tables showing the probable duration of the natural life, hence an estimate of the present sum to be paid an injured person based upon the existing tables would be much wider from the mark than on the estimates for annuities and dower interests

"In the innocence of my youth I used to think that 'it is always the wounded bird that flutters,' but since I have been an attorney for a railroad I have seen full many a bird flutter that was not wounded As to any basis, method or standard by which the amount of compensation to be allowed for physical pain and mental suffering may be even approximately measured, we are utterly at sea The courts in allowing compensation for pain and suffering have arbitrarily and widely departed from the rules of law applicable to the measure of damages in all other cases While this departure from the ordinary rules may meet the approval of our sense of humanity, it can not be reconciled with any correct principle of law, except in cases where the injury has been wilfully or wantonly inflicted in which punitive damages or smart money is allowable not as compensation to the injured person, but rather as a punishment to the wrong doer

"That the pain exists at all is a fact known alone to him who suffers it, while others are left to believe or disbelieve its existence accordingly as they may judge of the manifestation thereof by the alleged sufferer, who can say whether my tooth aches or that I suffer constant pain in the spinal column increased by finger pressure, without relying on the evidence of such pain emanating from myself alone? These injuries, these elements of damage, the symptoms of which are purely subjective, are indeed the most dangerous class of cases to railroad companies, and to them railroad surgeons should give careful attention in order as far as possible to detect malingering

" There is no 'best method' for determining the compensation that should be allowed for physical pain and mental suffering, for the allowance of such compensation is wholly without method, measure or standard of any kind, beyond the varying and uncertain emotions of the human heart"

I believe myself that from a doctor's standpoint, I might venture to detain you just a second more by saying that for the railway surgeon the following points seem very essential, and it is incumbent upon us

1 To have a due appreciation of the cause, nature and extent of the injury

2 An acquaintance with the pathology and prognosis of similar injuries where there is no possible liability, and where cupidity can not become an element in the problem

3 A careful management of the injury according to the most approved methods

4 An opinion based on the known pathology of the injury

5 The exclusion of all litigation and other extravagant, unique and inexplicable symptoms which find no foothold in our more fixed medical and surgical literature

Giving an opinion upon such a basis would enable our attorneys and our claim agents perhaps to more easily arrive at a proper settlement.

DR W H MEYERS, of Myersdale, Pa —The discussion brought out this point, in reference to men being under the influence of liquor, saying that the essayist was correct, but that some men played the part of impostors and were not in any way entitled to pay from the company The Baltimore & Ohio Railway Company always pays and settles its cases promptly and liberally The following is the history of the case

A J I, married, aged 49, residence Uniontown, Pa , claims to be injured internally in abdominal region in New Castle (yard) Pa , wreck He says he passed blood from bowels at stool in water closet in ladies' coach , passage examined by Drs Gildner, Meyers and W H Meyers, Jr , and found no blood on examination in water closet nor in snow under water closet The statement made by Mrs Amanda Jacobs, 6135 Sangamon Street, Chicago, and others was that he did not complain of any injuries until after men returned from looking at the wreck Drs Gildners and Meyers found nothing apparently wrong, except that he was under the influence of some stimulant Dr Gildner and Dr Meyers made a personal examination of patient, with reference to his pulse, examining his eyes, resorting to auscultation, percussion, etc

DR REED—The question, as stated in the program, the best method for approximately determining the amount of damage sustained by a traumatism from a monetary standpoint, is one that affects every railroad company in the country It is one in which the railway surgeon is always called upon sooner or later to determine, and is one in which he is often placed in the most embarrassing position If he is called upon to testify on the witness stand, this is one of the questions which the attorney for the defense will always ask, either privately or on the witness stand It is one in which if there is no suit the surgeon is again asked by the company to settle Now, the question of getting at this matter is one I think of great importance I have written to quite a number of surgeons who have had experience in this matter, and I at one time prepared an editorial, or rather a paper on this subject, for *The Railway Surgeon*, in which I tried to set forth some of the principles that should govern railway surgeons in estimating these damages After discussing the matter with the manager of *The Railway Surgeon*, who had *supreme* control, it was decided that it was not advisable for us to discuss a question of this kind Now, it does seem to me, gentlemen, that while this is a question that is of serious importance, it is right that we should discuss it We have no right to turn our back on a fire that is destroying our building It is our duty to put it out if we can We, as railway surgeons, can not afford to go on the witness stand and testify to anything that is not the truth We can not afford to perjure ourselves for our companies, neither can we afford to go on the witness stand and testify in such a way as will destroy a just claim It is our duty as railway surgeons to testify as to the truth, let it be what it will Then comes the question, How shall we determine the value of an injury? Take, for instance, a party who is injured in the arm We will say there is a Colles fracture, and that the company was liable for the injury Now, how are we going to determine how much that is worth, and at the same time be fair to the patient and to the company? This is the question that has been brought out in this debate, as I understand it It seems to me we can, by accumulating facts which every railway surgeon has an opportunity to do, arrive at a general conclusion as to the value of a certain class of injuries How are we going to do this? We can not apply any ironclad rule and say that a fractured arm is worth $500, or that a certain limb is worth $1,000, because there is a gradation of variation One man's arm may be worth to him $5,000, while another man's arm may not be worth half that much I am speaking now of the money value in different men Why? Because in one case a man may have an occupation whereby he must use one arm more than another, or perhaps any other member of his body, while in the other case, the man may be able to continue his occupation, making just as much money as he did before the loss of the arm These are points that have to be considered, and the best method of arriving at them is what we want to attain if possible

It has been my custom for the last fifteen years to take into consideration first the condition of the patient, and the age Age has something to do with value A man, 21 years of age, has an earning capacity, so far as age is concerned, superior to a man of 70 years of age That would be one factor We should take into consideration the earning capacity of a man or woman, as the case may be, relative to his or her occupation One laborer, we will say, earns $500 a year, while another man of higher attainments will earn $1 500 a year Another will earn $2,000 a year, and still another $5,000 If that party is maimed in such a way as to interfere with his earning capacity, to what extent is he damaged, and that should be a factor in considering the damages sustained by the traumatism Then again, we must take into consideration in addition to the earning capacity, the expectancy of life which has some bearing on age Furthermore, we must consider the amount, as the doctor stated in his paper, of actual pain and injury that the party has sustained through traumatism, in other words, the amount of suffering What is that worth? I have been in the habit of rating a certain amount for suffering sustained by the pauper, just the same as it would be for the millionaire One would suffer as much as the other, so that the rating is equal or on a level But the earning capacity of the pauper would be entirely different from that of the millionaire, or of some one whose capacity for earning would be $1,000 or $2 000 a year Then we must take into consideration the amount of time lost and the value of that time rated on the man's earning capacity, which should be based on his age, his salary, or the amount he could earn if he was not injured I think if we take these matters into consideration we can approximately at least set a value on a broken arm, based on these three leading principles Age, value of earning capacity, and the amount of damage that we would fix for the actual amount of pain sustained But, at the same time, when we go before a jury, these questions are generally fixed by this body, and it is hard for us, with all the care we may take, to go before a jury and convince them as to the fixed amount of value a certain party should have for a certain injury But at the present time, I think the legal departments of our railroads are largely coming to the idea of settling these questions without going into court, as far as possible, and here is the place where you can use these principles to the best advantage You can rate up a man's injury approximately close to its true value, so that you can say conscientiously of this man that he has a fractured arm, that he has been off duty for six weeks, and that his time is worth so much a week We can say there is a certain amount of permanent injury that is worth so much for the balance of his life, taking into consideration his earning capacity By this method we can arrive at an approximately fair estimate We should, as railway surgeons, consider these points and keep careful records of our cases I have records of cases for over fifteen years I know the length of time the party has been off duty, I know his earning capacity, and know what we have paid him By taking the average case of fracture of the arm, the average time lost, the average value of time in a certain class of cases, you can estimate the amount within a few hundred dollars of the actual value of each party's time The main question to settle is this, Should a party be paid for the actual amount of pain they have had for a certain class of injury One man having a fractured arm will suffer much more pain than another of the same character, because he may be a sensitive nervous man, and consequently suffers far more because of that than the other man who perhaps has more animal nature, and is less sensitive from a nervous standpoint, yet each one loses the same amount of time So here is a gradation again I hope we shall hear more on this question It is one that has not been discussed to any great extent We can find no literature on the subject except instructions given by accident insurance companies I feel that it is a subject of sufficient importance for us to discuss and if possible fix a schedule for our guidance in this class of injuries

DR ARTHUR D BEVAN, of Chicago—I think we are treading on dangerous ground One of the dangers to the good name of railroad surgery is the danger of allowing railway surgeons to be made tools of by the claim agent department and by the law department I am sory if I have to differ from the author of the paper and the past speaker, but I should say distinctly that this is not a medical question It is purely a legal question, and one which belongs to both the law and claim departments We should not, if we begin our Association with the motto that it is for 'the higher order of railway surgery," allow anything of this kind to creep into our work I may say to you emphatically that I do not believe we should allow railroad surgery to be prostituted to the work of handling this class of cases We have nothing whatever to do with settling for an injury to a limb or as to the value of loss of life I speak with some preparation upon this subject because I was down for a discussion of the paper on the best method of determining the value of life where death was caused by accidental means I have taken some pains to run over the work with some of my legal friends and without exception they have agreed with me that it is a purely legal question, one which cannot in any way be discussed in a purely medical society I do not believe that we can do anything more important, or take any more important step in placing this Academy of Railway Surgeons on a high plane, than by recognizing the fact that as railway surgeons we have nothing to do with the legal or claim department When a man is injured you simply state to the claim or law department the outcome of the injury, and the length of time it will last It is not for you to determine how much a jury, or judge, or company will allow him as compensation I therefore wish to take a decided position in regard to this question There are many chief surgeons here and we ought to discourage the handling and settling of claims by railway surgeons We ought, on the other hand, to demand that the law and claim departments continue to take these matters in their own hands Railroad surgery is believed by the public to be notoriously partisan. Your testimony on the witness stand is taken with a great deal of incredulity simply because we allow ourselves to be dragged into this kind of work We ought to take a decided stand in this, that all papers read and discussed on these subjects should be recognized as outside of our sphere, as simply being read and discussed because they are of general interest just as any outside matter might be to the physician

DR C K COLE—I agree with Dr Bevan as to the relation of the railway surgeon to the patient, the legal department of the road, and to all concerned, and I believe that is true of Dr Harnden, and the position taken by him, as also Dr Owens who opened the discussion The remarks of Dr Bevan are remarks which have been heard before and on lines which have been somewhat fully discussed in similar organizations to this, and I think we are fully agreed that we should not be partisan, that we should not be biased, that we should give testimony which will be accepted and acceptable to the court and to all concerned, and yet we can not get away from the fact that we have a dual function as railway surgeons We are executives of the road we represent, but that does not deny to us the privilege of giving fair and impartial testimony As witnesses we are judicial and I believe, as a matter of fact, we are impartial and non-partisan I cosnider this a very vital question for this Academy to discuss I can not conceive of any more important subject and yet it is to my mind a purely medico-legal question I take it, Mr President, that it is so important a subject that if we discuss it fully—if we could take the paper read, have it edited and condensed with the discussions already had, we will evolve facts which will enable us to approximately value life in connection with this class of accidents or cases injured upon our railroads I had it in my mind to make the proposition that the paper and discussions should be epitomized with a view for further discussion at a subsequent meeting I had intended to discuss the paper itself, but Drs Owen and Reed have gone over the ground so fully that I hardly feel warranted in consuming the further time of the Academy to say any more than I have

DR W H ELLIOTT—In the main I agree with what Dr Bevan has said on this subject, but I do not think the line of the surgeon's duty in this case has been as clearly stated as it might be, and I rise for that purpose In the law department of the road I represent, they do not ask the surgeon to take any part at all in settling the claims—in fact, he is not allowed to do it In the directions given to the surgeons, it is distinctly stated that the surgeons have no right to settle claims, nor to make any promises on part of the company, but they are expected to use all honorable means to prevent law suits Now, I believe the duty of the surgeon is just this I do not think it is his business to estimate the money value of an injury I think that is outside of a surgeon's usual capacity, and furthermore, I think if done it will compromise his position What I conceive to be the surgeon's duty is this, besides stating the extent, duration, and the exact conditions of the disabled party, that it is a medical question, that he should state clearly to both the law and claim departments of the road he represents just how much the injury, if it is permanent, interferes with the man's earning his livelihood, not how much money he can make a day The surgeon should give the law and claim departments some basis so that they can make their figures They are to make the figures, and you are to give the information upon which they are to make a settlement Then too, the medical man is the only one, I think that can state fairly what has been the amount of suffering in this or that case He has watched by the patient's bedside, gone there perhaps at midnight to give a hypodermic injection, and he knows, he is accustomed to estimating suffering He is not a doctor if he does not estimate suffering and try to relieve it He can state, if the patient is a highly nervous subject, that the suffering has been intense, while a laboring man, whose injury seems to be a severe one, suffers much less as compared with the other patient from what you would expect from such an injury After giving an opinion on these two points the business connection of the railway surgeon with the case ceases

DR F H CALDWELL, of Sanford, Florida—Ten years ago I told my superintendent when we had a hospital system on the road, that I occupied a dual position I was an employe of the company and an employe of the employes They pay so much a month to the hospital fund It was not a charitable institution, and they had a claim upon me as well as the company, and I declined to take any part whatever in the settlement of claims It would injure my influence for good with the employes, and it would detract from my confidence which the company had in me, and I did not think I could consistently take any action in this way The president and superintendent of the road sustained my position and since that time I have had nothing whatever to do with damages The method pursued by the company I represent is this, that as the papers come into my office with the request for information relative to the nature and extent of the injuries received, I indorse the extent and probable outcome of the injury and return them to the office, and that is the last I know of the matter The rest is settled by the claim department I showed Mr Plant this program, but he had already received a copy of it I told him of the importance of this discussion, we went over the program together, and he said any discussion should be *sub rosa* "It is all right for you gentlemen to discuss this matter among yourselves and have a fair judgment as to the amount of damages that should accrue" Dr Cole has made a point which I think is a good one, that if this discussion should be published broadcast, and an anti-railroad attorney should get hold of it, he would make good use of it before a jury if any of us are called upon (which we are frequently) to testify in cases of this kind I agree fully with those gentlemen who say that this matter should not be published broadcast, that if we do as Dr Reed suggests, viz, get up a schedule, if there is any important case on hand, it will be brought before a jury and used against the company The surgeon's duty to his patient is to get him well, if possible If called upon to go before the court, his duty is to "tell the truth, the whole truth, and nothing but the truth," whether it be for or against the company he represents I tell you, gentlemen, that the onus which comes upon us as witnesses before a jury is due to a very large extent to the fact that it has been demonstrated that a large number of surgeons—I do not say any of the gentlemen present have done it—have shown their preference on the witness stand in favor of the company The sooner we realize that fact, and the sooner we realize the fact that a plain statement of facts made before a jury is the best, the sooner will our testimony be given weight

DR LEMON, of Denver—There is no doubt but that all of us as railway surgeons, when cases get into court, have to give opinions I have made it a rule, which I consider a good one, to confine my statements to the physical signs alone I always object to answer the question regarding pain I do not believe any of us can determine how much pain one patient will suffer over another That is something we can not estimate at all That is something we should ignore and simply decline to answer I have frequently said to lawyers, that is something I can not estimate, but the other signs I can

DR REED—I desire to make one correction Dr Caldwell said I spoke of a schedule of prices I did not lay down a schedule of prices, and if that impression was conveyed I did not intend it I meant a schedule of certain things, as it were, that should govern our judgment as to the amount of value, as, for instance, the age, the occupation of the party, and damages, what is the actual injury sustained, that we should be able to designate how much each one should be given according to the patient's situation I did not mean to convey the idea that we should have fixed prices We would have to fix the price on principles, and not on any ironclad plan

DR HARNDEN—I think the paper has been misinterpreted somewhat by some of the gentlemen, in that I disclaimed any intention in the paper of our becoming claim agents I would like to know if there is any gentleman in this room who acts as claim agent or does a claim agent's business I stated in the paper that we as railway surgeons are to act as advisers, and are not expected to take the place of claim agents

(*To be continued*)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM, IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

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SATURDAY FEBRUARY 9 1895

A PROFESSIONAL DUTY

There are certain obligations a man takes upon himself when he enters one of the learned professions Among the most important of those duties is that of advancing the general good of the profession itself Every conscientious physician who loves his work for its own sake, must feel that to a large extent his own standing in the community is measured by the general standing of his profession To make that profession powerful, to make its influence felt in all directions, in which the profession have an interest, organization is a necessity We must unite for general advancement, general encouragement of our interests, and mutual improvement Under what banner can we fall into line more appropriately than under that of the AMERICAN MEDICAL ASSOCIATION?

Membership in that ASSOCIATION, is based on correct local standing No one not a member of a State or local medical society in good repute can become a member of our already great ASSOCIATION It is therefore evident that the local society and the State society are fostered and sustained by the ASSOCIATION

Many gentlemen applying for membership in the ASSOCIATION, have been obliged to wait until they had first joined their local society This is the practical effect of the law, but *there are hundreds of physicians who are not aware that they may join the* ASSOCIATION *by simple application, properly certified by the officers of their local society*

Will our members each for himself, look into this matter in his local society, and by inquiry find out who are members? Let this matter be pushed in the local societies, the JOURNAL will be made better and better, larger and larger, in equal pace with the growth of the ASSOCIATION The JOURNAL has already grown to be one of the largest, but we are yet far behind the *British Medical Journal* and the *Semaine Médicale* in the journalistic race for preeminence The medical profession of America more than any other, should have the greatest journal It is within its capabilities, and within easy reach Jealousies should be sunk in this matter, for no private publisher can be able to gather the whole profession under his interest, nor so far as we are aware, do any of them expect it

We urge our members to do their whole duty in increasing the ASSOCIATION membership, at every meeting of their local society, and in six months the work will have been measurably accomplished

If there is personal feeling, let it slumber, if there have been disappointments, let us forget them, if we want changes in form or matter, let them be urged on the floor where all have an equal voice

Let us unite as a professional brotherhood, bound by every tie of patriotism, and professional honor!

RELATION OF GOUT AND URIC ACID

DR ALEXANDER HAIG, (*British Medical Journal*, Dec 8, 1894) gives us an extremely simple explanation of the relation of gout to the excretion of uric acid He finds that when the latter substance is taken into the stomach it acts as a decided stimulant, producing a feeling of buoyancy, this condition is succeeded by depression, disinclination to exercise and headache The first of these conditions is accounted for on the theory that the uric acid lessens the alkalinity of the blood, and hence this substance is not taken up from the tissues, so that for a time after its ingestion the circulation actually contains less uric acid Later, when the alkalinity of the blood is restored and uric acid again finds its way into the circulation we have depression and malaise

DR HAIG on these premises gives us a theory in explanation of the fact so often noted that many gouty persons improve on a meat diet This he thinks is due to the free uric acid which such substances contain, and which for a time secures temporary amelioration of the symptoms only to be followed by an aggravation of the disease

We confess that this view of the matter, attractive and simple as it seems, does not appeal strongly to our judgment In the first place, if uric acid is absorbed from the tissues, why does it not lessen the alkalinity of the blood, the same as when taken up from the stomach? We do not think that the writer has answered this query Again, the improvement often noted in gouty subjects, when on a meat diet, is frequently due to the fact that the diet, as a whole is very much lessened

The logical deduction from DR HAIG's theories would be a vegetable diet for gouty subjects, but we know that many patients are not benefited by such regimen, but on the contrary improve when vegetables are restricted

The truth is that a number of toxemias are dependent upon perversions in the digestive tract, which clinically can not be differentiated from the ordinary forms of uric acid poisoning, and these are often greatly modified by changes in the quality of food Some patients can not digest fats, others must avoid starches and sugars, while still another class can take proteids only in certain forms

In the treatment of the uric acid diathesis, too little attention has been paid to the absolute quantity of food taken It is of little consequence what diet is given, provided the digestive tract is healthy and free from fermentations To avoid uric acid production we need only reduce *luxus consumption* to the vanishing point

POLLUTION OF NAVIGABLE STREAMS

House bill, No 8481, which provides for the appointment of a Commission to investigate the subject of the contamination of such lakes and streams as are the source of water supply to more than one State, still slumbers in committee so far as we are informed, and a petition was introduced into the Senate February 20, from the Pennsylvania Board of Health praying for the passage of the bill

We are not advised of the exact text of the bill, but it is evident that some measure of this kind should be enacted Were there a Department of Public Health, all such investigations would naturally fall under its scope, but in the absence of such a Department, special legislation is necessary

The British Rivers Pollution Commission, instituted by Parliament many years ago, set an excellent example of what such a commission could do to advance the interests of public health, by ascertaining facts and making recommendations for the securing of pure water supply In this country, work of this character has been done by the Massachusetts State Board of Health, the Illinois State Board of Health and perhaps others, but this work was necessarily limited to State waters, with exception perhaps of the investigation of the waters of the Illinois River, which emptying as it does into the Mississippi, was an object of some solicitude to the good people of St Louis and other places in Missouri

But it is obvious that the water of such rivers as the Ohio, and the Mississippi, where the river itself constitutes the State boundary of many States, should be investigated by impartial authority That authority can only be found in the general government, and as the population deriving water supply from rivers is steadily increasing, there is a more pressing need for action each year

Let there be created a Department of Public Health!

LICENSE OF HOSPITALS

Moved thereto by the inadequacy of existing laws and ordinances to deal with the rapidly growing brood of "faith curists," "Christian scientists," *et hoc genus omne*, and more directly by the difficulty of suppressing a notorious fraud, the "Rev" John Alexander Dowie—a "faith healer" who has been successively, but not successfully, tackled by the State Board of Health for practicing medicine without a license, by the city authorities for maintaining an unsanitary establishment and concealing deaths occurring in his "tabernacle," and by one or more of his victims for obtaining money under false pretences —the Health Commissioner of Chicago, Dr Arthur R Reynolds, has succeeded in procuring the enactment of a municipal ordinance the enforcement of which should make short work with this tribe

It forbids the establishment or maintenance within the city limits of any hospital, other than those of the United States, of the State, the county and the city, except upon license of the Commissioner of Health, who is empowered to make "strict inquiry" into the location of every hospital, the purpose for which it is conducted or maintained, its fitness for such purpose, the nature and kind of treatment given and the qualifications of its chief physician or surgeon under the laws of the State, and to issue, refuse or revoke a license upon the facts disclosed by such "strict inquiry" The chief physician or surgeon or superintendent shall make a report to the Commissioner on or before the fifth day of each calendar month, showing a complete record of such hospital during the preceding month, including the number of inmates received, discharged and died during the month, *the causes of deaths and such other information* as may be necessary to an intelligent sanitary supervision of the establishment

For the purposes of the ordinance a "hospital" is defined to mean any place used for the reception or care, *temporary or continuous*, of the sick, injured or dependent (including women awaiting confinement or used for the treatment of mental or physical disease or bodily injury Under this definition it i held that "faith cures," quack "dispensaries' and "institutes," "massage parlors," "anatomical museums," lying-in establishments, opium and drink "cures," and kindred institutions must obtain license and come under the supervision of the Departmen of Health, or cease business

The beneficial scope of the ordinance cannot b overestimated Its judicious enforcement shoul largely reduce the aggregate of swindling under th guise of medical and surgical treatment, of th notorious immorality of the "massage parlor" an of the butchery of young women and infants in th dens of procuresses licensed as midwives Reputabl establishments will no doubt welcome the enactmen and it may be profitably copied by other communitie

MEDICAL COLLEGE "NOTES AND COMMENTS"

By the omission of a reference number preceding he Atlanta Medical College, in the table of Medical Colleges on page 60 of the current volume of the OURNAL (issue of January 12) the "Notes and Comments" on pages 61 and 62, are made to refer rroneously to the respective colleges by one minus umber each Thus, the "note" numbered 9 should efer to the Atlanta Medical College, and "note" 10 o the Southern Medical College and similar trans ositions throughout As, for example, the note to he Woman's Medical College of Pennsylvania, umbered 36, which reads ' Partly due to the fact hat we began our compulsory course next year," etc , he note numbered 37 belongs to this college and reads "The recent reduction in the number of students was probably due to the lengthening of the course of study *to four years and* the advance in the standard of entrance requirements adopted by the college " As the Registrars of one or two colleges—Dr Willis G Tucker, of the Albany, and Dr R F Ruttan, of the McGill—have been kind enough to point out, the article will be used for reference and no usual correction will be noticed , therefore, and in compliance with requests from others interested, the table and notes will be republished in full in an early issue of the Journal with the comments identified by the college titles

The returns of the Albany Medical College, made Nov 1, 1894, were noted at that time "not complete " Under date of the 1st inst , Dr Tucker furnishes the revised list of attendance, as follows First year students, 84 , second-year, 54 , third-year, 58 , total attendance, 196—as against 173 for the last previous session

Dr Ruttan, Registrar of the Faculty of Medicine of McGill University, also furnishes a revised list of the same date, as follows Total attendance, 401—there being 121 in the second year, and 72 in the fourth year , the total attendance at the last previous session was 350

CORRESPONDENCE

The Practical Importance of Well Established Facts in Therapeutics

To the Editor —In order to explain the undeniably miraculous effects of the large dose of alcohol by which on the Alps I was restored from a condition of profound general prostration to one of ability and health, Dr Davis is obliged to ignore his so-called *established* facts as regards depression of the nervous system, the diminution of muscular force and the alteration of blood consequent on defective oxygenation and retarded metabolism, and to be driven back *on its* supposed anesthetic action on the partially sensitive vagus and the insensitive vasomotor nerves He thinks a dose of chloroform or ether would have produced the same effect I do not think so With chloroform I should have been put to sleep never to awaken again If my vagus and vasomotor system required a sedative it must have been supplied by healthy blood, for as soon as the circulation was restored and my extremities became warm, the sickness disappeared *and my muscles* recovered all their power But the established facts of Dr Davis are the effects only of the misuse of alcohol They are seen in perfection in the drunken man Before the days of chloroform I was present at an operation when the patient was carried *from the operating* table unconscious from the supposed effect of the shock He awoke some hours after and to the astonishment of his attendants he asked when the *operation* would begin He had fortified his courage by a bottle of brandy without the knowledge of the surgeons and the anesthesia was not limited as in my case to his vagus and vasomotor nerves It should never be forgotten that the effects of alcohol are not solely determined by *the quantity* administered—a quantity more than sufficient to make a healthy abstainer drunk might be useless in a case of great exhaustion *It is essential that its* effects should be estimated less by the quantity than by the condition of the patient The effects of small doses must be our guide This subject was treated by Professor Cerna of Texas, in a very exhaustive manner only last year, *Therapeutic Gazette*, 1894) He says "In small doses alcohol excites the puerperal and sensory nerves, stimulates the cerebral functions, increases reflex action, increases cardiac action by direct *contact with the heart itself*, causes a rise of arterial pressure, raises bodily temperature, is a *conservative of* tissue and a *generator of* vital force and may therefore be considered as a food "

I was an assistant with Dr Edward Smith and I can personally testify that small doses of alcohol increased the respiratory action and the evolution of carbonic acid I am also satisfied that to be *favorable* the administration of alcohol must be so adapted to the condition of the patient that the established *facts of Dr Davis shall* be conspicuous only by their absence

But let me endeavor to eliminate the *question of nervous* irritability by the relation of an experience which must be common to the majority of medical practitioners

Forty years ago the large towns in England were annually devastated by typhoid fever In 1846, one-fifth of the entire population of Leicester had the fever We had then no clinical thermometer *The diagnosis* had only just been made and was not universally accepted We *had no trained* nurses and an abandoned *prison* was used as a temporary hospital, of which I had charge At the end of the *year* I published an account of 186 cases treated with the cold wet sheet and my mortality was 30 per cent less than that of my colleagues in the hospital Typhoid fever was then far more serious, *far more* infectious, *far* more fatal than it is to-day The daughter of a *farmer* living in an isolated farm house in the forest came on a *visit to the town* She contracted typhoid fever and was taken home She recovered, but both her parents had it and the farm servant died *of it* The undertaker who lived in the village more than a mile away, caught the disease which spread to his family and neighborhood A blacksmith lived at a solitary house on the turnpike road *His son*, a youth of 12 years, was employed as errand boy to fetch medicines and medical comforts for many of these patients and he *took* the fever During this epidemic, I lost half a pound daily for *one* month I paid this boy a visit at 10 o'clock at night He was in the fourth week of the attack I *found* his parents sitting by his bedside awaiting his death He had taken no food for several hours and they said he could not swallow He lay before me *unconscious, his* eyes half closed, his lips black with sordes, his tongue like a *piece* of red mahogany, his pulse imperceptible, his *extremities cold*, the respiration slow and shallow, the stomach tympanitic and the *evacuations* were passing under him Nevertheless there were no râles in the lungs, and the heart was still fluttering I sat by the patient for three hours, and I gave him brandy, at first by drops, lest I should choke him and in order that he might rather inhale than swallow it Then I gave it by the teaspoonful, and before I left he had taken half a pint Little by little, the circulation was restored, the extremities became warm and life became a possibility Beef tea and brandy formed his diet for a week and his recovery was eventually complete Does any one seriously believe that this result would have followed the administration of milk or milk and water?

Now, sir, these were not the symptoms of nervous irritation but of a profound prostration of the nervous, circulatory, respiratory and vasomotor systems and due first to the poison of typhoid, and second to the paralysis of assimilating power and the drain from the intestinal mucous membrane The alcohol, large as it was when compared with the weight of the patient's body, produced none of its *well established* ill effects It did not make the coma more profound It did not interfere with the absorption of oxygen, it did not retard metabolism and it did not lessen the heart's action But according to my view and the experiments of Dr Cerna, it acted as a food which needed no digestion, no assimilative process Indeed, it was taken when digestion was no longer possible, and being absorbed by the force of mechanical diffusion it was carried into the blood, then sent directly to the heart which it stimulated to increased action, then to the lungs, where it supplied the material for heat production

Under the stimulus of warm blood every part of the body was excited to renewed vigor The brain was aroused from its lethargy of impending death, the vasomotor system was forced into new action, the capillaries made blood from the wasting muscles, digestion recommenced, and all these actions were begun and continued under the use of this marvelous remedy

With respect to the treatment of pneumonia and the effect of alcohol in my own case, Dr Davis asks what I would say in regard to the case of an elderly physician who was promptly bled and treated according to the antiphlogistic system and nevertheless lived to a ripe old age? To which I would say, that this treatment would have been well adapted to my own case, and that modern physicians have carried their fear of venesection to a ridiculous extent With dullness and fine crepitation in all the right lung and in the left also to the level of the fourth rib, with excessive rusty sputum, with great congestion and distension of the right heart, and a rapid intermittent pulse, threatening paralysis or as it is now called "failure," there was every indication for the relief which venesection undoubtedly affords Surely it is wiser and safer to diminish the congestion by this means than to allow the blood to fill up the pulmonary vesicles and to force its way outward through the bronchial mucous membrane But failing this very reasonable practice, the only way left was to stimulate the heart so as to force the circulation and overcome the difficulty The administration of alcohol immediately steadied the action of the heart, stopped the intermissions, reduced the frequency of the pulsations, and increased their power, and thus by improving the general circulation the lung congestion was relieved This was all it did and rest, nursing and good constitution did the rest But I believe that these would have failed without the assistance of alcohol

Now sir, I am not so ignorant as to regard longevity as a test of the value and effects of alcohol Unusual longevity is to be found in every condition and rank of life Men obtain great ages *in spite* of bad habits, bad surroundings and injudicious treatment But I think it worth noting that a [illegible] use a drug for over fifty years without detecting some of the evil effects attributed to it by Dr Davis, if such in reality occurred I agree with Dr Davis that the effects of alcohol on the living body require something more than the impressions of an anesthetic patient I would commend the experiments of Cerna to his special notice But there are cases like those I have ventured to describe, where the conditions are definite and the results clear and indisputable In these cases the margin of error is extremely small, and if you should think further illustrations are required, I could certainly prove its value as a therapeutic agent in a variety of morbid states, with the same certainty that attaches to the administration of an ordinary aperient or a dose of morphin

Yours very obediently,
J H Stallard, M D Lond,
M R C P, M R C S

A Further Contribution to the Subject of Malaria as a Waterborne Disease

Washington, D C, Feb 1, 1895

To the Editor —In your issue of January 26 last, is an article entitled, "A Further Discussion on Malaria, a Waterborne Disease," by Dr W H Daly, Pittsburg, Pa, which treats of malarious waters as a new idea, and at its close gives a bibliography of the subject, beginning with a paper published in the *Medical Record,* September 15 last, and enumerating nine other articles which have appeared since that date This might lead some of your readers into the mistake of supposing that anterior to that issue of the *Medical Record* this question had received no attention from the medical profession Medical officers of the Army by their service in various parts of the country have the incidence of endemic disease placed strikingly before them, and it is not therefore a matter of surprise that they should have given much attention to the propagation of endemic fevers Dr Daly will find a full discussion of the prevalence of malarial remittents at Fort Bridger, Wyoming, and the grounds on which they were referred for causation to malaria in the water supply of the garrison in an article on "Mountain Fever and Malarious Waters," *American Journal of Medical Science*, Philadelphia, Pa, 1878, n s LXXV, pp 17-48 He will find a full discussion of the subject also in a chapter on the etiology of the paroxysmal fevers in Part III, of the "Medical Volume of the History of the War," and in the Reports of the Committee on Water Supplies of the American Public Health Association, in the volumes of the reports and papers of that Association, as also in the articles "Malaria" and "Water," in "Wood's Reference Handbook of the Medical Sciences"

For several years past, medical officers of the Army have been reducing the malarial sick rate and building up a new reputation for military posts that were formerly regarded as specially insalubrious, by providing pure water supplies for the men under their care Particularly at certain of the Texas posts has this been done, as at Forts Brown, McIntosh, Ringgold and Clark The report of the Surgeon-General for the year ending June 30, 1892, makes special mention of this in the following language

"In the report from this office for the fiscal year ending June 30, 1890, which summarizes the statistics of sickness at our military posts during the calendar year 1889, the remark was made (page 37) that if Fort Brown, Texas, were expunged from the list of our military stations the prevalence of malarial disease in our Army would be greatly reduced Fort Brown has not been abandoned, but its malarial record has been expunged, with a consequent material lessening of the malarial rate of the Army During the calendar year 1889, the post had an admission rate for malarial disease of 1,676 and a non effective rate of 38 58 per thousand of strength During the year 1891 the corresponding rates were 16 13 and 85 This change which practically alters status of Fort Brown from that of the most unhealthy one of the most healthy garrisons in the Army has been omplished solely by the use of a pure water for drinking d cooking, an accidental consequence of the introduction d use of an ice machine Formerly the water supply was mped from the river into settling tanks and distrib ed for use It is so pumped and distributed now for gen- l purposes, but the water for cooking and drinking is tained from a steam condensing coil connected with the e machine Distilled water was introduced in 1890 and e extraordinary change in the health of the garrison can attributed to nothing else than to its use for all the her sanitary conditions and surroundings of the post main as they were during the years of insalubrity and gh rates"

Fort Ringgold, Texas, gives corroborative testimony to e foregoing Here distilled water was introduced in 1888 e post surgeon considers that its use has reduced the sick te one-half since that time, and that most of his admis ns for malarial disease are among troops whose duties ve taken them away temporarily from the post As a atter of published record the admissions at this station ve fallen from 2,304 per thousand of strength during the lendar year 1885 to such rates as 562 in 1889, 865 in 1890 d 1,366 during the past year Respectfully yours,

CHARLES SMART, Major and Surgeon, U S A

Morphinism in Children

BROOKLYN, N Y Feb 1, 1895

To the Editor —I am desirous of adding to the clinical lit rature of morphinism in children If any reader of your URNAL has noted a case, and will furnish me details, I will ppreciate the favor and give full credit

J B MATTISON, M D

BOOK NOTICES

nical Gynecology, Medical and Surgical, for Students and Practitioners By eminent American teachers Edited by JOHN M KEATING, M D, LL D, and by HENRY C COE M D, M.R C S Illustrated Cl pp 994 Philadelphia J B Lippincott Company 1895

This volume contains articles by the late William Goodell, illiam H Baker, Francis H Davenport, Hunter Robb, ache McE Emmet, Barton C Hirst, Matthew D Mann, illiam M Polk, J Whitridge Williams, Henry T Byford, aul F Mundé, Herman J Boldt, Henry C Coe, William T usk, Chauncey D Palmer, Chas Jewett, and John Polak, dward E Montgomery, Dudley P Allen, Louis A Duhring, nd Milton B Hartzell

The surviving editor, Dr Coe, states that owing to the un- mely death of Dr Keating, the completion of the work evolved upon the present editor, who has as far as possible arried out the plans and wishes of his lamented prede essor While seeking to preserve that coherence which is esirable in a text-book, he has in the main allowed each ontributor to consult his own judgment with regard to the rrangement and phraseology of his article, believing that n this way the individuality of each would best be pre erved. The introduction is of unusual interest as the last rinted words of the late Prof Wm Goodell, and he has ssumed unconsciously the reminiscent and prophetic vein e can give our readers no better idea of his style on this ccasion than by quoting his own words

'One advantage accruing to the writer of an introductory ies in the circumstance that he is not limited to any given ext or narrowed down to a special topic Untethered to hesis or theme, he can range at large over the whole field f the subject-matter and treat it pretty much as he pleases ow as Mentor he can preach his homily, now as pupil he an con his hornbook

"In this survey of gynecology I shall not hesitate to borrow from my previous writings on the subject, without credit and without stint I shall also use the pronoun of the first person, not from egotism, but in order to invest my own views with that personality which the editor has urged all his collaborators to assume Nor, on occasions, shall I hesitate to show myself a proselyte of the gate—one who does not wholly yield up his creed to all the articles of orthodox medical belief, or subscribe to all the obligations of its ritual

"With the ancients the Golden Age was in the past With us it looms as the promise of the future, and indeed a great future lies before us At the brink of the twentieth century let us look back upon the one that is fading away, and a truly wonderful one it has been"

And then the writer follows with a hasty but comprehensive review of the gynecology of the century now drawing to a close We think him too sweeping when he asserts that the scientific treatment of appendicitis, of perityphlitis and of all intestinal and visceral lesions have come from the advances in gynecology The truth is that modern abdominal surgery including gynecology proper, has come as a result of the immortal discoveries of Pasteur and the consequent technique of Lister The writer of this remarkable introduction makes one of the most powerful appeals for the preservation of the ovaries, and as a citizen and patriot not less than a physician, he inveighs against the custom of the time by which the propagation of children has almost ceased to exist in our Anglo-Saxon stock, and he strongly urges conservatism in the use of the knife (see page 20) for ailments very frequently having their origin in the nervous system rather than in the reproductive organs

"Nerve strain," says our author, "or nerve exhaustion comes largely from the frets, the griefs, the jealousies, the worries, the bustles, the carks and cares of life Yet strangely enough the most common symptoms of this form of nerve disorder in women are the very ones which lay tradition and dogmatic empiricism attribute to ailments of the womb" (Horace summed up these worries in the phrase, *res angusta domi*)

The other chapters in the book are written from a clinical standpoint, and are the views of men of great experience as will be seen from the list above given The work is systematic and we feel sure that it is as a whole the equal of any similar book, and in many respects it is immensely superior to any gynecology recently issued The surgery of the rectum and anus, and of the breast is given respectively by Dr Montgomery and Dr Allen

Surgical Pathology and Therapeutics By JOHN COLLINS WARREN, M D, Professor of Surgery in Harvard University, Surgeon to the Massachusetts General Hospital Illustrated Cl, pp 832 Philadelphia W B Saunders 1893 Price $6

Instead of dedicating this book to anybody, Professor Warren has the following motto from the Georgics of Virgil

> "*Felix qui potuit rerum cognoscere causas*
> *Atque metus omnes et inexorabile Fatum*
> *Subjecit pedibus strepitumque Acherontis avari*

Which Dryden has freely translated

> 'Happy the man who studying Nature s laws
> Through known effects can trace the secret cause,
> His mind possessing in a quiet state
> Fearless of Fortune and resigned to Fate'

The book is divided into thirty-two chapters beside the appendix as follows i Bacteriology, ii, Surgical Bacteriology, iii, Hyperemia, iv, v, Simple Inflammation, vi, vii, viii, Infective Inflammation, ix, The Process of Repair, x, Gangrene, xi, Shock, xii, Fever, xiii, Surgical Fever, xiv, Septicemia, xv, Pyemia, xvi, Erysipelas, xvii, Hospital Gangrene, xviii, Tetanus, xix, Hydrophobia, xx, Actinomycosis, xxi, Asthma, xxii, Glanders, xxiii, Snakebite, xxiv, Tuberculosis, xxv, Surgical Tuberculosis of Joints, xxvi, Tuberculosis of the Soft Parts, xxvii, Diseases of Bone, xxviii, Tumors, xxix, Carcinoma, xxx, Sarcoma, xxxi, Benign Tumors, xxxii, Aseptic and Antiseptic Surgery

The appendix contains articles on the blood serum therapy in rabies, tetanus, treatment of cancer, methods of preparing erysipelas toxin, examination of tumors, staining methods—tumors, so called parasites of cancer, decalcification of bone There are 132 illustrations in the text and 4 full page plates

It is thus seen that the scope of the book is limited strictly to the subjects included in its title It therefore can not take the place of the more elaborate works on pathology or bacteriology, nor does it assume to do so The teaching is quite in accord with modern advanced views, but if the author has a leaning it is always in the direction of conservatism He is always guarded and makes positive assertions only where the proof is undoubted, and usually produced

In regard to the Lustgarten bacillus he says

"The question of the microbic origin of syphilis has been extensively discussed and investigated, but as yet no definite conclusions have been reached which are generally accepted by bacteriologists"

In regard to the cause of inflammation our author, as we think properly, denies the extreme view of Heuter that all inflammations are due to bacteria, and he recognizes mechanical violence, and chemic action including heat and cold, as agents in the production of certain inflammations

While usually quite clear there are occasional obscurities, thus on page 162 the author says "Nearer the central point of the inflammatory process the cut surface has a pork-like aspect" We confess with due humility that we do not know what a "pork-like aspect" is The chapter on the process of repair is admirably written both as to matter and form We think, however, the writer is in error where he attributes the priority in the application of the double ligature in tying the larger vessels, to Senn and Ballance and Edmunds, for Prof Moses Gunn long ago taught that method, and in 1870 formally proposed the "constricting silver ligature" as a substitute for ordinary ligation in innominate aneurysm The purpose in the case mentioned was not the same as that mentioned by our author on page 254, but the principle was clearly enunciated of occluding the vessel by approximation of its walls without rupture

The chapters on tumors are excellent and interesting In regard to the Coley treatment of inoperable sarcomata the author says "The experience of many prominent surgeons with this method of treatment has not been satisfactory There is little doubt that it is of little if any value in the treatment of carcinoma The fact that a considerable number of cases of sarcoma have been benefited by this treatment, and that a few have been cured renders it desirable to experiment further in this direction"

To aid in the correction of the next edition, we note a few errors of proof reading, among them "Kelbs" instead of Klebs, page 67, and "Recklighausen," page 87 These are scarcely worthy of notice as they are such as might occur in any work It might seem a little perfunctory to devote so much space as is here given to the subject of hospital gangrene, a disease that in the present day has only a historical interest, but as it might possibly "come again some day" when the germicides are away, perhaps the chapter is not altogether in vain

We congratulate the author on the production of an admirable book, alike creditable to himself and to American surgery, and we venture to predict its entire success The field was ready, and this work will well occupy it, until a more recent favorite shall appear upon the scene

Fourteenth Annual Report of State Board of Health of New York

This report, which is for the year 1893, was transmitted to the Assembly by the Governor February, 1894 It consists of two volumes of 869 and 510 pages respectively and a volume of maps The report gives in detail a statement of the work performed and of all expenses connected therewith The Board invites attention to the annually increasing amount of work done The report justly gives credit to the work of the U S Marine-Hospital Service It says

"Owing to active and efficient work on the part of government inspectors abroad and at ports of embarkation, cholera, which broke out in Western Europe in the spring with renewed vigor, did not gain a foothold in this country"

The Board, however, were not idle, for the threatened invasion caused greater activity on the part of all employed in the health service of the State Great advancement of hygiene throughout has resulted not only in the prevention of a threatened epidemic, but in the public education and better appreciation of sanitary science, and its practical application One of the most important duties of the Board consists in the examination and approval of submitted plans for systems of sewers, sewage disposal and water supply of villages, towns and cities throughout the State, and a great portion of the report is properly taken up with a detailed statement of these examinations The vital importance to the public of the water supply, and of sewage disposal, has created the need for such work by a properly constituted board, and it is impossible to place an estimate on the value of such service The New York Board is doing excellent work and the report well illustrates it

PUBLIC HEALTH

Smallpox in Iowa in 1894 —Dr J T Kennedy, Secretary of the Iowa State Board of Health, in reviewing the health of that State during 1894, says that more than twice the number of cases of smallpox occurred than ever before in the history of the State, in any one year, and the casualties therefrom have been greater Chicago has been a constant menace, and has furnished nearly all the initial cases The disease appeared at over twenty different points, and the aggregate number of cases has been over one hundred At scarcely any point, however, did the disease get beyond the family originally attacked, and at only two points, New Hampton and Pacific Junction, was there any considerable number attacked Dr Kennedy compliments the local health boards for their prompt compliance with the rules and regulations of the State Board, whereby the disease was "remarkably well handled" respecting quarantine, disinfection and vaccination

Physical Training of Youth —A writer in the current number of the *Atlantic Monthly*, after analyzing the various systems of physical training in vogue in the public schools of a number of American cities, comes to the conclusion that no one of them is exactly suited to the requirements of American youth—that the aims of mere muscular development and military action and bearing dictate to a harmful extent the character of the exercises which obtain favor in our schools, and adds "It is not too much to expect that the character of our physical training will shape in a certain measure the destiny of our nation, for history is emphatic in proving this of other times and peoples, and so it behooves us calmly to examine our ideals and see if the highest that can be kept in view, considering our peculiar needs, are not those of self-poise and deliberation, and the grace and strength of mind and body which flow from them"

Booming the Crematory —*Florida Health Notes* begins, in the January, 1895, number, a collection of original contributions and extracts "bearing on the discussion and growing practice of this disposition of the dead"—to wit, cremation It learns that the crematory in San Francisco is so crowded with business that it has to refuse three out of ten offerings made, and a sanitary conference, composed of more than one hundred physicians from all parts of the State, recently passed a resolution declaring emphatically in favor of cremation and urging that it should become the national method of disposing of the dead In Boston the records of the Massachusetts Cremation Society, whose crematory is near the Forest Hills Cemetery, show that up to June 1, 1894,—that is, five months after the opening of the crematory—there were forty incinerations, the number constantly increasing each month In May there were sixteen in all "Socially considered, all classes of people have been represented in this new mode of disposing of the dead here, and all ages—from 94 to 5 years—figure in the official entries of cremation The system is a perfect success, and the average time required for the complete reduction of the body to ashes is about one and one half hours"

Antitoxin Production —The New York City Board of Health is increasing its antitoxin "plant" A new laboratory, to cost $5,000, is being fitted up at the Willard Parker Hospital, at the foot of East Sixteenth Street and will be in readiness in a short time

Asiatic Cholera —A cable dispatch of the 2d inst reports that cholera has broken out at Pera, a suburb of Constantinople The disease is practically at an end in the Argentine Confederacy, where the most vigorous measures were resorted to—even to burning infected houses with their contents

An Epidemic Predicted —Colonel Maurice calls attention in the *United Service Magazine* to the Chinese claim that there are 500,000 men massed around Pekin This force has already been there for some time, and it is likely to remain for several months longer It is an elementary maxim of military tactics that a large force of men should not be gathered until a short time before they are to be employed, otherwise an epidemic, resulting from enforced lack of sanitary arrangements, is almost inevitable Therefore, the writer predicts that as soon as warm weather begins in the spring there will be a most frightful outbreak of pestilence in some form or other, probably in many forms, but beginning with malignant typhus in its most virulent shape Colonel Maurice suggests that while there is yet time all foreigners in Pekin be withdrawn under adequate protection

Smallpox —During the first thirty six days of 1895—January 1 to February 5 inclusive—there were 222 new cases of smallpox reported in Chicago, a daily average of 6 3 During January the daily average was 6 5, during the first five days of February the average had fallen to 5 2 per day, but the mortality had increased from 17 6 per cent for the aggregate, to 23 8 per cent for February, this increase is attributed to the unusual severity of the weather since the first of the month Remaining under treatment, midnight February 5, in hospital 116 Reports of the disease in Detroit are conflicting, Health Officer McLeod reported twenty eight cases under treatment at the close of the month—eighteen in hospital, ten in homes From unofficial sources it is learned that Surgeon Hutton M H S, to whom had been tendered the position of Health Officer, has declined the appointment Secretary Wingate, of the Wisconsin State Board of Health reports February 4, five new cases and three deaths in Milwaukee during the week ended February 2, total under treatment, forty three, in hospitals fourteen, in homes, twenty nine There were also six new cases during the week in Greenfield, Milwaukee County

Quinin in Palustral Fevers —At a recent meeting of the Paris Therapeutical Society M Bardet stated that, until lately, quinin salts were administered to travelers who intended visiting tropical or malarious countries But at a recent meeting of the Paris Therapeutical Society (reported in *Gaz Med de Paris*) M Bardet stated that the number of diseases in which these salts are applicable is diminishing, especially since Ross (India), Miranda-Azevedo (Brazil) and Treille (Algeria) have shown that the tropical bilious fevers are more to be feared than the paludal fevers These attack especially Europeans living in hot countries whose hygiene is defective and who are given to alcoholic excess The hygiene of armies sent to these countries should be carefully supervised and the supply of alcoholic drinks interdicted This gives better results than the prophylactic use of quinin, the latter should be reserved for cases when it is indispensable, as for example, during prolonged stay in low marshy regions It is necessary to keep in mind the irritating effect of quinin on the digestive tube, which weakens the individual and also renders him insensible to the quinin salts Ferrand observed that the use of quinin is attended with many inconveniences For preventive purposes he thought quinquina was preferable

Artificial Foods and Infant Mortality —Statistics from the lists of registered deaths in England compiled by Dr Hugh R Jones (*Brit Med Jour*) show that 12 per cent of infant deaths may be referred to digestive disorders Infant mortality in Norway and Sweden, where almost every child is nursed by its own mother, is but 10 per cent In Wurtemburg the mortality of breast fed children is 13 5 per cent, of artificially fed children, 12 7 per cent In Munich, respectively 15 and 85 per cent In lower Bavaria where maternal nursing is the exception, the mortality is 50 per cent Dr Hope, Medical Officer of Health of Liverpool investigated the methods of feeding in 718 fatal cases of diarrhea in children Of these but 30 were breast fed, 391 were reared wholly on artificial food, while 297 were partly nursed and partly fed on artificial food Those wholly nursed fare the best and those partly nursed are better off than those wholly fed on artificial foods It is clear that maternal nursing should be encouraged, and early weaning and the substitution of artificial foods for the breast milk should be discouraged, but the tendency is the opposite in all classes of society—a tendency which is increased by the increasing employment of women in industrial and commercial occupations

Intermittent Water Filtration —In his report to the Massachusetts State Board of Health on water filtration, Mr G W Fuller compares the manner of operating filters in Europe and in this country, to the advantage of the latter In Europe the filters are operated with the surface of the sand continuously covered with water, while in this country the intermittent method of operation is usually followed, in which from time to time the water is shut off from the surface for a certain period, the beds drained dry, and the pores between the grains of sand become filled with air The advantage of the intermittent action is that it provides within the filtering material an additional amount of oxygen with which the bacteria may perform their functions while the advantage of the continuous action is that, when it is selected, the area of the filter beds need not be so great as for intermittent action From his experimental filtration of the Merrimac River water at Lawrence, Mass, however, the fact appears that there is no marked difference in the average results obtainable by the two methods, the explanation being that a practically sufficient quantity of free oxygen is held in the water as it flows to the filters, oxygen has never been absent in any of the samples of the effluent from the continuously operated tanks, long series of analyses of the effluents being made from both continuous and intermittent filters

Cheaper Sulphur —Sanitarians who believe in the bactericidal properties of SO, and followers of that school of medicine whose 'third great doctrine" is the psoric origin of at least seven eighths of all chronic diseases, will rejoice to learn that the great Louisiana sulphur deposit—variously valued at from $30,000,000 to $100,000,000—has finally been made available This vast mass lies some hundreds of feet below the surface in Calcasieu parish and is overlaid by an immense quicksand, to get through which hundreds of thousands of dollars have been spent and several companies bankrupted without ever getting sulphur enough to make a brimstone match The last fruitless attempt was that of a Belgian engineer who endeavored to conquer the quicksand by freezing it solid and boring it through, erecting valuable refrigerating machinery for that purpose, but the quicksand would not stay frozen, and that system of mining had to be abandoned Recently the Standard Oil Company got control of the property and set about mining in a fashion the very opposite to that of the Belgian engineer Instead of using freezing as the means of getting at the sulphur, it is trying heat Superheated water is forced through a ten-inch pipe, on the sulphur, melting it, and the liquid sulphur water is then pumped up Exposure to the air, so as to evaporate the water, leaves almost pure sulphur A New York *Sun* dispatch says the experiment has been a success beyond expectations It was tried for the first time only a few days ago, and several tons of sulphur obtained at the first strike It has been operated successfully ever since

Antitoxin Treatment of Diphtheria —The JOURNAL is indebted to Dr C O Probst, Secretary of the Ohio State Board of Health, for the report of Dr W T Howard, Jr , of the Pathologic Laboratory of the Western Reserve University at Cleveland, concerning the antitoxin treatment of diphtheria at Ashtabula—"the largest series of cases yet treated with the antitoxin in America," so far as the Secretary is aware

In all, eighty-two cultures were made by Dr Howard, to-wit twenty-nine times in convalescent cases to determine whether or not it was necessary to continue quarantine, in twenty eight instances for diagnosis, and in twenty-five cases treated with antitoxin In some of the quarantine cases reported, examinations showed the presence of diphtheria bacilli for many days after the disappearance of the false membrane In these cases the quarantine was not raised until the throat was proved to be free from diphtheria bacilli, a very much safer procedure than the ordinary time limit usually followed From the results it appears that the diphtheria bacilli disappear from the throat in a shorter time in cases treated with the antitoxin than in cases treated by the ordinary methods

The twenty-eight cases treated by Drs Alrich, Dickson, Dorman, Flower, Gilchrist, Morse and Pardee, between Dec 17, 1894, and Jan 5, 1895, were divided into four classes, as follows Mild five, of medium severity ten, severe seven, malignant six In every case in which the remedy was used benefit was noted In all but one case the improvement was marked In mild cases and in cases of medium severity the affected part cleared up rapidly, decided improvement being noted within twenty-four hours The dosage varied with the severity of the case The mild cases received from 12 to 20 c c of the remedy in all The amount given in cases of medium severity varied from 35 to 55 c c Cases classed as severe received from 28 to 79 c c One of the malignant cases received 113 c c in five days The usual initial dose was the contents of one of the phials (22 to 25 c c) The further treatment of the case was governed by the severity of the symptoms and the patient's apparent needs Where it seemed necessary another dose was given within a few hours, but usually the second dose was not given until after twenty-four hours

Characteristic changes following the injections were fall in the temperature, slowing and strengthening of the pulse with, in some cases, a rise in the arterial tension Changes in the appearances of the false membrane were marked Within twenty-four hours it would lose the characteristic dry, dull, and opaque appearance and grayish color and become pale white or gray in color and moist and somewhat translucent in appearance Frequently in this time it would loosen and curl up at the edges In a variable time, from twenty-four hours to several days, the false membrane would separate, often in large masses The mucous membrane could then be seen to be more healthy in appearance than in cases not treated with antitoxin Drs Flower and Dickson lay especial stress upon this point and note the fact in the reports of their cases After the use of the remedy, often within twenty-four hours, patients were markedly brighter in appearance

Of the twenty-eight cases treated, three died, a mortality of 10 7 per cent The three fatal cases are of particular interest

The first, N F , a boy of 6 years, had been ill with diphtheria six days before the treatment was instituted Two weeks previous to this he had had measles, complicated by bronchitis When first seen there was a thick false membrane on both tonsils, on the pharynx extending over the roof of the mouth, and in both nares He was hoarse and could not speak above a whisper , the larynx was evidently involved The cervical glands were very much swollen Temperature, 103 , pulse, 150, weak , respiration, 30 The prostration was great and the case was looked upon as entirely hopeless He reacted somewhat to the antitoxin and lived two days after the first injection Before death, although he was intubated, the respirations were 70 per minute and he evidently had pneumonia Cultures made from the throat showed diphtheria bacilli and large numbers of the staphylococcus aureus Clinically and bacteriologically this was a case of severe mixed infection

The second fatal case is of equal interest N C , female, 27 years old, ill six days before antitoxin was administered She was seen by Dr Dickson with her physician, Dr Flower, on the third day They both thought the case hopeless then At the time of the first injection of antitoxin, there was a thick grayish-yellow false membrane over the tonsils, pharynx and roof of the mouth She was hoarse, could not speak above a whisper and complained of pain in the larynx and trachea The cervical glands were markedly swollen The pulse was weak, 140 per minute The face and lips were cyanotic She had not been able to swallow food for twenty-four hours Under continued large doses (113 c c in all) of antitoxin she showed decided improvement The false membrane cleared off entirely and the throat was clean by the afternoon of the fifth day after the first dose of antitoxin That morning her pulse was stronger and better than any time during her illness and it was thought that her chances for recovery were good That afternoon, suddenly, she became pulseless at the wrist and died in a short time of acute dilatation of the heart As far as the study of the good effects following the administration of antitoxin is concerned, this was the most interesting case presented for observation She invariably showed marked improvement after each injection of the remedy and the false membrane disappeared in the most satisfactory manner She had no local treatment after the antitoxin injections were instituted, except an occasional gargle of a solution of Seiler's tablets The diphtheria bacillus was found in pure culture in the false membrane

The third fatal case was that of a baby 4 months old, ill with diphtheria four days before antitoxin injections were given The rectal temperature was 105 , the pulse 120 to 160 , the respirations accelerated A false membrane covered the tonsils, uvula and pharynx Antitoxin was administered on the fourth day of the disease and was followed by a marked improvement , the throat being clear of false membrane on the third day The child died, however, on the evening of this day Cultures which were made just before the antitoxin was given showed the diphtheria bacillus and large numbers of the staphylococcus aureus The child probably recovered from diphtheria and died of septicemia

In all of the fatal cases the antitoxin treatment was instituted late in the disease "In the first two of the fatal cases there was involvement of the larynx and the first and last cases were severe types of mixed infection " The first two were said to be the most malignant of the epidemic and on account of their severity were the first cases to receive the antitoxin The best and surest results were obtained when the antitoxin was administered within the first forty-eight hours of the disease, though there were several malignant cases which showed rapid improvement and recovered when the treatment was not instituted until the sixth day of the disease

These experiences have in the main confirmed those of other observers in regard to the efficiency of the antitoxin treatment of diphtheria They tend to emphasize the experience of most of those who have used it—that the earlier the treatment is instituted the better the results and the smaller the doses necessary, and the additional facts that in cases not treated until late in the disease (third to sixth day or later) and in cases of mixed infection, the best results can not be expected

Study of the cases of diphtheria in Ashtabula and at the Harbor (where diphtheria was endemic) reported to the Health Department from Jan 1, 1894, to December, 1894, just before the present epidemic started, shows 114 cases with 19 deaths, a mortality of 16 6 per cent From Dec 6, 1894, to January 1 1895 there were reported eighty-two cases of diphtheria with twenty deaths, a mortality of 24 4 per cent

In this, as in most epidemics, it is probable that the most severe cases were among the first and that the most susceptible individuals were attacked earliest, but after due allowances have been made for these factors the antitoxin treatment has been followed by a most gratifying lowering of the mortality

As soon as the supply of antitoxin warranted it, an attempt was made to immunize all individuals in infected houses as far as possible For a variety of reasons this plan could not be applied to every household Altogether twenty-five persons were given antitoxin for immunization, of these seven contracted diphtheria, but nearly all had mild attacks It is not improbable that several of these were already infected at the time of the injection The amount used varied with the age and body weight, from 1 to 4 c c being given In several cases this was followed by erythema and urticaria In one case the victim in a few minutes was seized with a violent paroxysm of sneezing which was shortly succeeded by an attack of asthma Some hours later this was followed by a troublesome urticaria But as a rule no discomfort followed the administration of the remedy whether it was used for treatment or for immunization

With patients receiving the antitoxin little or no local treatment was used In cases which were not brought under the antitoxin treatment until late in the disease (third to the sixth day) sprays of hydrogen peroxid or of mercuric chlorid when used were always stopped As routine treatment in connection with the antitoxin, as cleansing agents and for the mechanical effects, patients were made to use a mild gargle of boric acid solution or a solution of Seiler's tablets, both of which may be regarded as harmless In some cases, however, even this was omitted The patients were encouraged to eat, and when their condition called for it, were freely stimulated, for this alcohol and strychnin were chiefly relied upon

ASSOCIATION NEWS

The Section of Neurology and Medical Jurisprudence have arranged the following symposiums for the May meeting at Baltimore Epilepsy, Medically, Surgically, and Therapeutically considered, Hypnotism, and Mental Therapeutics, and its Medico-Legal Relations, Electricity, some new Therapeutic Relations and Questions of Treatment Short practical papers on these topics are urgently solicited Other papers on subjects belonging to this Section will be welcomed

SOCIETY NEWS

The Bussey District Medical Society held a regular meeting at Tracey, Iowa, January 31

The Iowa State Medical Society will hold its forty fourth annual meeting at Creston, April 17–19

The Capital District (Ill.) Medical Society, at its annual meeting in Springfield elected the following officers President, Dr E J Brown Decatur, Secretary, Dr B M Griffith, Springfield, Treasurer, Dr R C Matheny, Springfield

Ramsey County (Minn.) Medical Society —The thirty first annual meeting of this society was held January 28 The following officers were elected for the ensuing year President, Dr C E Riggs, Vice-President, Dr Willis E Hallowell, Secretary, Dr Charles R Ball, Treasurer, Dr A A Pine

The Rome County (N Y) Medical Society perfected its organization January 30, by the election of the following officers President, Dr C C Reid, First Vice-President, Dr T M Flandrau, Second Vice President, Dr E J Lawton, Secretary, Dr Calvin B West, Treasurer, Dr James Middleditch

The Medical Society of Southwestern Iowa was organized at Creston, Iowa, January 30 The following officers were elected President, Dr B W Torrey, Creston, Vice-Presidents, Drs Cokenower, of Clarinda E Potter, of Corning, Stanton, of Chariton, Bosbyshell, of Glenwood, Mulhern, of Greenfield Treasurer, Dr Paschal, of Bedford, Secretary, Dr F E Sampson, of Creston The next meeting will be held in Creston February 21

NECROLOGY

V W May, M D, of Lawrence, Kan, February 4 ——William Wallace Cook, M D, of Woodstock, Ill, February 4, aged 39 ——Jamin Strong, M D, of Cleveland, Ohio, January 28, aged 69 ——F W Ostrander, M D, of Brooklyn, N Y, January 29, aged 90 ——Dr Brandt, of Warrenton, Mo, January 15 ——A T Stephenson, M D, of Harrodsburg, Ky, January 12 ——Heinrich Harpke, M D, of Milwaukee January 12, aged 68 ——Miles R Bohannon, M D, of Lynchburg, Va, January 19, aged 69 ——W A McCulley, M D, of Independence, Kan, January 22 ——Cyrus Haven, M D, of Hannibal, N Y, January 25 ——Wm M Fee, M D of Melbourne, Fla, January 27, aged 73 ——Dr Stover Wayland, Mo, February 4 ——Francis J Hammond, M D, Indianapolis, February 1 ——Horace Gaylord, M D, Pontiac, Ill, January 30

MISCELLANY

The Philadelphia Medical Club held its annual meeting January 30 The following officers were elected for the ensuing year President, Dr Hobart A Hare, First Vice President, Dr Henry Beates, Second Vice-President, Dr A K Minich, Secretary, Lemuel J Deal

Monument to Charcot —The committee appointed to collect funds for the purpose of erecting a monument to Charcot, of which Professor Brouardel is the President, has collected 30,000 francs and as soon as the funds from foreign countries have been turned over the lists will be closed

Von Helmholtz' Library —The German Emperor has ordered his Chancellor, Prince Hohenlohe, to purchase the library of the late Prof Hermann von Helmholtz for the Imperial Institutes of Physics in Berlin The library is supposed to be the best private collection of works of their class in the empire

Jugulation of Pneumonia —Petresco, of Bucharest, claims to have successfully jugulated pneumonia by enormous doses of digitalis In 1891 he had treated 825 cases, with a mortality of 2 06 per cent and in 1893 he claimed to have treated successfully 1,081 cases during the previous twelve years (*Rev de Méd*) He gives one to three drachms daily of digitalis leaf in infusion (ʒi to ʒviiss), a tablespoonful being given every half hour

Diagnosis and Treatment of Diphtheritic Angina —In twenty-eight cases of angina with false membrane, and suspected diphtheria, only eight had the Loffler bacillus seven had streptococci, five had staphylococci, eight had different microbes, coli bacilli, pneumococci, etc, of these eight cases, two died Catrin has practiced in all cases repeated touching every two or four hours with a solution of potassium permanganate (1 to 100) This solution is neither caustic nor painful —*Revue des Science Medicales*, Jan 15, 1895

Treatment of Acute Articular Rheumatism by Malakin —In a trial made on four rheumatics, Montagnon found that malakin was never harmful even in great doses, that it augmented the quantity of urine, facilitated the elimination of uric acid, and distinctly lowered the temperature, never produced ringing in the ears, or digestive troubles The ordinary dose is 6 grams in twenty four hours It may be carried to 10 grams without danger in divided doses —*Revue des Science Médicales*, Jan 15 1895

Cerna, "Notes on the Newer Remedies," 1895, states that malakin (a substance closely related to phenacetin) is best given in wafers or capsules, the single dose is 0 5 to 1 gram, and "for children it can be administered in some kind of fruit jelly, in corresponding doses"

Washington State Board of Health —The Washington State Board of Health and Bureau of Vital Statistics held its regular annual meeting at Olympia, January 21 Dr J B Eagleson, of Seattle, was elected President, and Dr G S Armstrong, of Olympia, was re elected Secretary The other members of the Board are Dr N Fred Essig, of Spokane, Dr John T Lee, of Tacoma, and Dr E E Hegg, of North Yakima The Board decided to establish a laboratory for bacteriologic and experimental work, and appointed Dr A B Kibbe, of Seattle, Director and Bacteriologist

Society for the Relief of Widows and Orphans of Medical Men—The Society for the Relief of Widows and Orphans of Medical Men of New Jersey was incorporated in 1882 and has continued to grow both in influence and membership Since its organization, 241 physicians of the State have become members, of which number 22 have died, 28 been dropped for various reasons, leaving at the present time 191 active members The Permanent Fund amounts to $1,338 42 and it is intended eventually to allow small annuities to widows and minor children in cases of need The amount already paid to the families of deceased members amounts to $2 478 The total cost of running the society during the past year was $19 67

Syphilitic Gangrene of the Tongue—At a meeting of the Paris Society of Dermatology, reported in the *Gazette Médicale de Paris*, M Mendel presented a man aged 55, with gangrene of the tongue very probably of syphilitic origin The patient presented himself at the Hospital Saint Louis with his tongue enormously swollen and the anterior third, green and pulpy Two days later this greenish part sloughed off in the form of fetid detritus, and the remainder showed a separated surface already undergoing repair Two or three similar cases have occurred in carcinoma of the tongue, but it seems probable that in this case we have to deal with syphilis, in the form, possibly, of an unusually large phagedenic gumma The patient had syphilis in 1882 and has been very poorly taken care of The characteristic signs of cancer are lacking—cachexia, glandular enlargement, otalgia and spontaneous pains, fetidity and loss of blood

Suicide of Physicians—Dr J U Hall, one of the editors of the *Colorado Climatologist*, offers as the causes of the increase of suicide among physicians, first, the proneness of medical men to resort to artificial stimuli when overworked, and, second, the overcrowding of the profession whereby the struggle for existence is made so bitter that many conclude that life is not worth living In his own State, as member of the Colorado Medical Licensing Board, Dr Hall has helped to license 2,066 physicians since 1881 The total population of Colorado by the last census amounted to only 442,000 Thus they have in fourteen years licensed one physician for every 213 inhabitants Dr Hall adds "It is needless to say that a large part of these have moved on, and are now trying to find a still easier place If all had remained, we should have died for lack of sufficient oxygen to support us"—an alternative less objectionable only than suicide itself and no less deadly

Argon—the New Element—At the recent meeting of the Royal Institution in London, on the 31st ult, it is claimed that the existence of the new element, discovered by Lord Rayleigh and Professor Ramsey and to which they have given the name *argon*, was fully demonstrated* It is said that the discoverers have finally succeeded in separating it from the atmosphere on a large scale and have sent a portion to Professor Crookes and a portion to Dr Olszewski of the University of Cracow, to liquefy and solidify, and that these physicists have found that the new substance gives a spectrum of its own and has its own boiling point, freezing point, critical temperature and critical pressure, all different from those of any other element The cable dispatch says "Argon gives two spectra, the red and blue, and it is this which raises a doubt whether the investigators are dealing with one or two substances If the latter should prove true then there is a new vista opened up, and it is suggested perhaps one of these substances will prove to be Professor Crookes' ideal protyle, the ultimate basis of matter of which all others are only combinations"

Treatment of Syphilis by Mercurial Injections—Lendin has observed in 106 subjects the comparative action of subcutaneous injections of 1, calomel, 2, salicylate of mercury, and 3, mercuric thymol Forty-three patients were treated with injections of calomel in doses of, gr 0 05 to gr 0 2 (in all 186 injections—100 double and 86 single) Of these forty three patients, thirty-four were treated with calomel from the beginning, the other nine had been given other medicaments as well The injections of mercuric thymol (83) and of salicylate of mercury (852) were made in sixty-four subjects, in doses of from gr 0 05 to gr 0 1, in the region of the great trochanter These were poorly borne and were replaced by mercury internally and by inunctions The reaction caused by the calomel injections was always more pronounced than that following the other salts Suspension in glycerin produced an abscess in 24 5 per cent of all cases, while suspension in oil produced only 9 7 per cent, moreover, large and very painful swellings were produced which greatly annoyed the patients Injections of the thymol and salicylate, on the contrary, in most of the cases were not followed by any inflammatory reaction, or if any appeared it was very slight, with no abscesses and an elevation of temperature in only fifteen cases The author concludes (*Jour de Med de Paris*) that calomel occupies the first place in cases treated for the first time, by reason of its rapid therapeutic action, in cases of relapse, on the contrary, there is no appreciable difference between these three salts of mercury

Liability for Personal Injuries is not Changed by Presence of Microbes—A novel application of an old rule of law has been made by the United States Circuit Court of Appeals in the case of the Crane Elevator Co v Lippert decided Oct 1, 1894 This was an action brought to recover damages for personal injuries The party who instituted it testified that he fell, and struck his shoulder upon some iron He got up and walked home He felt some pain in his arm, below the shoulder It was swollen the next day, but he returned to work, and after working about an hour he went home and went to bed About four days after, a doctor was called His arm was then badly swollen After treatment by two or three different physicians, he went to the hospital, where he was in bed about a month and was operated on by a surgeon, by whom a piece of diseased bone was taken out of his arm The medical testimony tended to show that, when admitted to the hospital, he was suffering from tubercular osteomyelitis, resulting from the presence of microbes or tuberculous germs in his system, that, if these microbes or germs had not been present in his system, the fall and consequent bruise would not have resulted in the serious injury from which he suffered The point was, therefore, made by the lawyers that the injury sustained was not the proximate result of the fall, but arose from the presence of tuberculous germs in his system The court, however, holds otherwise It says that the wrongful act of the party sued subjected the injured party to other and dependent causes, which were set in motion by the original hurt It was the hurt occasioned by the fall which afforded an opportunity for the active development of the poisonous germs which had theretofore been innocuous For this it was answerable It was the wrongful act which gave rise to the subsequent injury, and it was not apparent that the injury would have occurred in the absence of such cause The principle applicable is that when there is no intermediate efficient cause, the original wrong must be considered as reaching to the effect, and proximate to it

The Bubonic Plague at Hong Kong, by Yersin, (*Bulletin Méd* Sept 24, 1894) and (*Annales de l'Institute Pasteur*, viii, 9) "Note on the plague by Kitasato," (*Bull Méd* Sept 23, 1894) 1 The bubonic plague which has raged from the month of May last at Hong Kong presents itself with the symptoms and clinical characters of the ancient bubonic plague, which has been observed from time to time in the East The microbiologic studies which Yersin has made on this occasion were not only made on animals (mice, rats, buffalo and swine) which easily contract the disease, but also on men

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*(See this Journal, January 26, p 136)

In the pulp of the bubo he constantly found in great quantity a short thick bacillus with rounded ends The blood sometimes contains them but much less abundantly The inoculations of the pulp of the bubo, caused the death of the animals with characteristic lesions and numerous bacilli in the *glands, the spleen and in the blood* Ingestion of portions of the spleen or cultures gave the same results

The plague is therefore a contagious and inoculable disease, and according to Yersin the rat was the chief agent in conveying the contagion In the cadavers of these animals he found a great abundance of the bacilli of the plague and as constantly the purpuric spots Finally the bacilli have been found and isolated in soil at a depth of four to five centimeters in a locality that was infected and insufficiently disinfected It is important to note that in certain cultures there may be isolated a variety of bacilli, some of which have lost all virulence for the guinea pig The researches which Kitasato has made this year on the plague at Hong Kong have permitted him also to describe the same bacillus and by the inoculations and the cultures to formulate the following conclusions This bacillus having the form of a small staff, with rounded ends is found only in the blood, bubos and internal organs of plague patients It is not found in any other contagious disease With this bacillus it is possible to produce in animals the same symptoms as those presented in man by the same disease This bacillus which penetrates the human body by the respiratory passages by an external wound and perhaps by the intestinal tract is the cause of the bubonic plague This plague is therefore a contagious disease produced by a specific bacillus —OZENNE, in *Revue des Sciences Medicales*, Jan 15, 1895

Japanese Army Medical and Supply Departments—English advices characterize as excellent, the medical arrangements of the Japanese during their present war with China Their hospital organization at Hiroshima is efficient and a thorough coöperation has been established between their Red Cross Society and the army medical staff and medical staff corps In the attack and capture of Port Arthur on November 21, the main body of the attacking force of the Japanese army passed through a small hamlet which was afterwards used by the Red Cross Society as one of the chief sites of their advanced field work The wounded were rapidly brought in from the front, placed on straw and promptly attended to by members of the medical service There was a plentiful supply of antiseptic agents and dressings, and all the operations were conducted on the recognized principles of antiseptic surgery of Western civilization Diagnosis tags were attached to the wounded, briefly stating the nature of the injury and what had been done before the wounded were transferred to the rear, and in fact, everything was done in accordance with the principles and methods followed in modern war in Europe The resistance offered by the Chinese was small and ineffective, and there was therefore no great strain on the Japanese medical organization and arrangements, but the work was well done and very creditable to the Japanese service Advices which reached San Francisco, January 23 give us other interesting points from recent reports of Surgeon General Isigaro The usual winter clothing consists of the regulation jacket, trousers, caps and shoes, with woolen socks and breast clothes one blanket besides underwear, etc They have a thick fur head covering, a fur overcoat with double lined neck piece and extra flannel undershirt, extra woolen merino drawers and long stockings and extra blanket, gloves made of thick blanketing a stock of paper underwear and a large fur skin, which may be used on certain duties, as well as for covering This dress generally goes to officers of rank The coolies have no protection and are provided with scarcely any pay, but in view of the increasing cold they have been allowed each a flannel shirt, lined coat and trousers, a cotton padded overcoat, a thick flannel head covering, cotton flannel undershirt and drawers, thick socks and a blanket That the coolies suffer more than the troops is largely due to their improvident habits They often gamble away their clothing, and, not being subject to the rigid discipline of the army, can not be made to regulate their food and drink properly The supply of food for the soldiers is very simple Rice is the basis The quantity, however, is ample, a quart and a half of cleaned rice per day to each man One third of a pound of vegetables is added, with condiments in the form of salted plums, etc On rapid and prolonged marches, when rice can not be prepared in the accustomed way, the troops are perfectly contented to live on gruel made of rice and Indian corn The commissary is greatly improved after every victory over the Chinese, for large stores of beef and pork are invariably captured The Surgeon General has observed that when on the march and expectant of battle, the armies are cheerfully satisfied with anything that will sustain life It is only when kept inactive for a long time that their appetites are more exacting The directors of hospitals in the field state that the wounded almost invariably protest against the use of the bandages made by the Empress and the Empress dowager at Tokio, and beg that the bandages be hung in honor near their pillows instead The gratification which these marks of imperial remembrance and favor excite is often thought to stimulate the progress of the invalids toward recovery

Washington Notes

Medical Society of the District—At the regular meeting of the society held on the 30th ult Dr Wm P Mason, of Troy, N Y, read an essay on 'Drinking Water and Disease" He pointed out some facts touching the relation of rainfall and typhoid fever, illustrated by the use of the stereopticon

The Washington Obstetrical and Gynecological Society—The regular meeting of the society was held February 1 Drs H L E Johnson and H B Deale read a joint paper entitled 'Laparotomy for Ovarian Disease with marked Symptoms in the Digestive System," and each presented specimens from the cases reported Dr H L E Johnson also presented a specimen of diseased ovary, and Dr J W Bovee presented specimen from two cases of pyosalpinx and ovarian abscess The paper and specimen brought out a very interesting discussion

Smallpox—There were several cases of suspected smallpox investigated during the week, but all proved to be other diseases One suspicious case was discovered in the Providence Hospital and caused considerable alarm The Sister in charge had it properly isolated until it was removed to the suspect camp

Proposed New Smallpox Hospital—The Senate Committee has added to the appropriation bill an item of $30,000 for the erection of a new smallpox hospital on the site of the present one The clause provides that the money shall be immediately available The Contagious Disease Hospital site has not yet been decided upon If the name of this hospital were changed to "Isolation Hospital" and the public given to understand the exact class of cases to be treated therein, it would remove a great deal of opposition to its proposed location

Practice of Medicine in the District—Senator Harris has presented at the request of the District Commissioners, their substitute bill for the regulation of the practice of medicine and surgery within the District The bill was referred to the District Committee

Health of the District—The report of the Health Officer for the week ending January 26 is as follows Number of deaths (still-births not included) White, 47, colored, 42, total 89 Death rate per 1,000 per annum White, 12 22, colored, 22 98, total, 15 68 Death rate per 1,000 per annum for corresponding week last year, 27.36 Still births White, 5, colored, 4, total, 9

Special Act of Congress for a Physician —The House Committee on the District of Columbia reported with a favorable recommendation the bill passed by the Senate relieving and exempting the real estate purchased and conveyed to Grace Roberts, Doctor of Medicine, from the operation of the act to restrict the ownership of real estate in the Territories to American citizens, and remitting all forfeitures by force of said act

No Visiting at the Reform School —Visiting at the Reform School is still suspended, and will continue to be prohibited until the school authorities are satisfied that the city is free from smallpox

Population of the District —The police have completed the census of the District and have made their report to the Commissioners The population of the city and county is 270,514

To Protect Life and Limb —The Commissioners have finally decided upon the pattern of car fenders to be used upon the District street cars An order was passed February 1 which instructs the car companies to equip their cars with fenders on or before April 1, 1895, under a penalty of $25 per day fine for not so doing Major Powell, the Engineer Commissioner, has had the matter under consideration for several months, and some ninety odd patent fenders have been examined The official regulation issued provides that every grip and motor car operated in the District shall be fully equipped with front pick-up fenders of the Blackistone pattern

New Sewers and Pure Water Wanted —A committee of prominent citizens held a meeting at the Shoreham Hotel on the 1st inst to discuss the new sewer bill and the purification of water for the District Drs Busey and W W Johnston made speeches on the subject, urging the importance of prompt action by Congress Resolutions were adopted touching the subject and will be submitted to Congress at once Mr Justice Harlan presided and was directed to appoint a committee of seven members to present the resolutions The committee will be named in a few days

Louisville Notes

Smallpox —Lexington, Ky , now has three cases of smallpox The first case developed in the person of a stable boy from Roby, Ind , and the other two cases have developed among the stable boys The first case has proved to be mild, but much apprehension is felt that it may spread further

Chenault —Dr R C Chenault, recently of Lexington, is seriously ill at his home at Glenview, near Louisville

Antitoxin —The antitoxin is being extensively used in this city Dr W Cheatham reported three cases in which he had used it, in a recent number of the *American Practitioner and News* Dr W Ed Grant has used it in four cases, Dr H E Tuley in a case of laryngeal diphtheria and Dr J G Cecil in one case Full reports of these cases will be made later We are well supplied with the remedy, several drug houses having received consignments

Sanitation in the Western District —Dr Frank Corrigan, sanitary inspector of the district of Louisville, has submitted his report to the Health Officer There were 1,601 vaccinations, 173 charity calls, a daily visit to the almshouse, no smallpox cases, and less diphtheria than at any time in twelve months

Mortality Report —The report for the week past shows a total of fifty eight deaths, of which forty-five were white, thirty-three male, and twenty-eight were natives of Louisville Pneumonia led with twelve fatalities and consumption next with eight During the month of January there were 296 deaths, of which 223 were white, 153 male, and 129 natives of Louisville During the month there have been sixty-four deaths from pneumonia, twenty-nine from consumption, twenty one from organic disease of the heart, twelve from typhoid fever, and twenty-four stillbirths Two of those who died were over 100 years old There were thirteen deaths at the City Hospital

Annual death rate per 1,000, 15, white 14, colored, 23, for month, white, 13, colored, 2 Corresponding month last year, 293 During the last two months 3,960 were vaccinated.

Druggists' Liquor License —The druggists have abandoned their fight in the legal test of the law requiring them to pay a license of $50 for selling whisky The intention was to carry the case to the United States Supreme Court after the reversal of the Fowler case by the Court of Appeals, as recently chronicled in these columns, but they have abandoned this idea, paid all costs and announced that no appeal would be taken The Auditor will in a few days send out notices to all druggists to pay for the two years during which the license law has been suspended, pending litigation, and it is expected that not less than $25,000 will come into the State treasury from this source

Hospital Notes

The County Hospital at Arvilla, N D, was destroyed by fire January 28 The loss on the building was $12,000, on furniture and fixtures $3,000, insurance $2,500——The Reineman Maternity Hospital, at Pittsburg, was formally opened January 29——The ladies of the Mercy Hospital Association of Sioux City, Iowa, held a ball for the benefit of that institution February 8——Plans are being made for the erection of a new hospital at Terre Haute, Ind——A regular meeting of the Woman's Aid Association of the United Presbyterian Churches of Pittsburg was held January 20. It is announced the hospital board has recommended the opening of a hospital for women and children There is $2,000 available for the work and a committee has been appointed to take the initiative steps——Dr J C Wilson has been elected superintendent of Jefferson Medical Hospital (Philadelphia)——The annual report of the Margaret Pillsbury General Hospital at Concord, N H, shows 160 patients were treated during the year——Plans have been completed for the enlargement of the Kansas City Hospital, to cost $15,000——The report of the Indianapolis City Hospital shows that during the year 1,277 patients were treated

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army from Jan 26, 1895 to Feb 1, 1895

First Lieut Henry R Stiles, Asst Surgeon, extension of leave of absence granted on account of sickness, is still further extended two months, on surgeon's certificate of disability

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the sixteen days ended Jan 31 1895

Surgeon H W Austin, to proceed to New Bedford, Mass, as Inspector, Jan 18 1895

LETTERS RECEIVED

Anderson, Winslow San Francisco, Cal Ayer N W & Son, Philadelphia, Pa.

Boggs, W R, Macon, Ill, Barclay, W F, Pittsburg, Pa, Baker, Henry B, Lansing, Mich, Balmer, William Mount Vernon, Ohio, Batten, John M, Pittsburg Pa.

Christenson, A, Washburn Wis, Coleman, J F Montrose Colo, Calumet Chemical Co Philadelphia Pa Callaway, J M Shreveport, La

Damrell & Upham Boston, Mass Dudley, E H, Janesville, Wis, Dolliber Goodale Co, Boston, Mass Dudley, A Palmer, New York N Y

Egan, P Ralph Fort Custer, Mont, Eagleson, J B, Seattle Wash

Fisher, Henry M, Philadelphia, Pa Follis, C W, Burlington, Iowa, Ford, Charles, New York, N Y

Greenley, T B, Meadow Lawn, Ky, Graybill, A G, Caledonia, Mich Griggs, S C, & Co, Chicago, Ill

Hollingsworth & Mathie, St Louis, Mo Humphrey, The H B Boston, Mass, Holleman, P W, Roseland, Ill Heuel, Emil, New York, Hanson, J P, Chicago Ill, Haughton, R E, Midland, Texas, Hummel, A L, (4) Philadelphia, Pa.

Indiana Bicycle Co, Indianapolis, Ind

Johnson, H P, Long Prairie, Minn, Justice C R, Poland, Ohio, Jones, W T, Georgetown, Texas

Lehn & Fink, New York, N Y, Lyons, John A, Chicago, Ill Le Sage, Philip, Chicago Ill Longmans Green, & Co New York, N Y, Lemberger J L Lebanon, Pa Leedom, Chas, Philadelphia, Pa

Moore M B Woodburn N C McCoy Wm A, Madison, Ind Mercer Archibald, Newark, N J McGarvey J F, Lorain, Ohio, Mulford H K, Company, Philadelphia, Pa Millard Perry H, Minneapolis, Minn, Mayer, Oscar J, San Francisco, Cal, Montgomery, E E, Philadelphia, Pa

Newman, Robert, New York N Y

Parmele, Chas R, Co, New York N Y Powers, C A, Denver Colo Proffitte S D, Cabool Mo Plummer Robt Newton, Philadelphia, Pa Post J R, Rome, N Y, Pyncheon, Edward, Chicago, Ill

Ridlon, John, Chicago, Ill Robertson E B Jackson, Cal, Rouleau, Z, Manteno, Ill, Rosse, Irving C, Washington, D C

Stearns, F & Co, Detroit Mich Staver & Abbott Mf'g Co, Chicago, Ill Sandrock, W C, Baltimore, Md Sweeney, Arthur St Paul, Minn Steiger, E & Co, New York, N Y Squibb E H, Brooklyn, N Y, Sullivan, T J, Chicago, Ill, Selden Julia, Norfolk, Va, Southam, Stanley, Manchester, Eng

Trowbridge, L S Detroit, Mich

Van Hook Weller, Chicago, Ill

Whetzel, F F, Milwaukee, Wis, White, J A, Richmond, Va

The Journal of the
merican Medical Association

ol XXIV CHICAGO, FEBRUARY 16, 1895 No 7

ORIGINAL ARTICLES

FUNCTIONAL SPINAL PARALYSIS

Read at the Chicago Academy of Medicine, Jan 11, 1895

BY SANGER BROWN, M D
CHICAGO, ILL

Notwithstanding the progress that has been made hin the last decade regarding the physiology and atomy of the spinal cord, as well as the pathology d the pathologic anatomy belonging to the diseases this organ, much obscurity remains *Many of the* eases *of the* spinal cord are not rapidly fatal, so at an opportunity for post-mortem examination can t be had at a period when the symptoms would ggest most strongly the desirability of such an exination An autopsy in many cases is only availle after the symptoms *have advanced to such a* gree owing *to the extensive* organic changes which ve taken place, that examination of the cord at is period is of very little value in discovering the inute pathologic changes which may have given e to the earlier symptoms Nothing remains, hower, at present but for clinicians to go on carefully porting irregular and *anomalous* cases in the hope at the data thus afforded may finally in some way lp to elucidate the pathology It is in accordance th this purpose that the following case is reported

Case 1 —F O, Norwegian, aged 35, stone cutter, married, s admitted to the Cook County Hospital June 29, 1893 thing important in the personal or *family history* except at he had syphilis fourteen *years ago Habits* regular, d he had always enjoyed *good health* prior to the present ness, which began about two years previous to admission ile working at his trade He worked in all *kinds of* eather and not infrequently in wet clothing The *first* mptoms consisted of a numbness in the fingers and toes ich gradually extended upward toward the elbows and ees respectively There was also at the same time gradually increasing weakness and ataxia which had become so eat eighteen months after the onset as to seriously inter re with his work He could not hold or handle his tools as fore, and would sometimes unexpectedly and involuntary drop them, owing in *part to lowered* sensation and in rt to muscular weakness, and his gait became awkward d uncertain He knows that sensibility to touch was nsiderably impaired, but he does not feel *so positive* re rding the sensibility to pain He had no *trouble at* any me with the functions of the eyes, bladder or bowels bout one month before admission he had to give up work tirely and was only able to walk with assistance From is time forward he grew quite rapidly worse until one onth after admission, when he was wholly unable to sup ort himself on his legs and continued so for about six eeks Examination upon admission revealed impaired nsibility to touch, and pin *pricks*, especially from the nees downward and less so from the elbows downward, rogressively more marked as the distal extremities were pproached, but normal elsewhere The knee *jerks* were ntirely *absent*, abdominal and cremasteric *reflexes* were ormal, but the condition of the plantar reflex is not noted ision and the pupillary reflexes entirely normal While the hospital the patient was well nourished, ate and slept well, and was in fact in good general health Though the appearance of his legs and arms would not indicate actual atrophy they were *rather small*, considering the occupation *of the patient*, and he volunteered the statement that his arms particularly had gradually grown smaller during the last few months in which he had continued to work As already stated, after he had been in the hospital about ten weeks, the latter six of which he was unable to walk, under the treatment of potassium iodid in full doses strychnia, iron and faradism he began to improve both in regard to motion and sensation and left the hospital fourteen weeks after admission to it, well enough to accept employment *in a boiler factory four weeks after his discharge, and three months later all his symptoms* had entirely disappeared except that his *knee jerks* had not returned

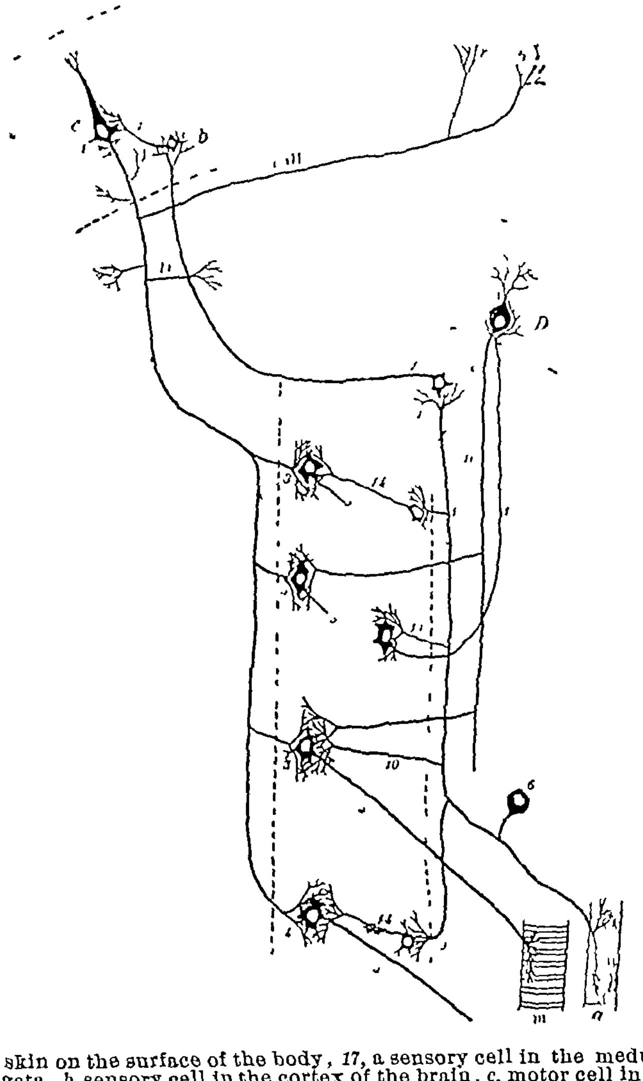
As to his condition at this time his *own* statement has to be taken He is an intelligent *man and says that he frequently* repeated *the tests he had often submitted to* while in the hospital Indeed, so complete was *his recovery* at this time that his work requiring him to swing *a thirteen-*pound sledge was easily performed, and he could *run down* a street car, for instance, as readily as ever *A few weeks* later he obtained *employment* at his trade at which he worked steadily and remained entirely well for about six months, when two weeks prior to his present admission, Aug 20, 1894, the former symptoms somewhat *suddenly returned* and developed within a few hours to such an extent that he was unable to go on with his work It should have been *stated before that* in this attack, and after the symptoms in *the previous attack* were pretty well developed there was a sense of considerable stiffness in the calves of the legs In this latter attack, neither the subjective nor objective disturbance was *so marked* as in the first attack In one month after the onset he was again entirely unable to walk and in essentially the same condition as before His inability to walk on this occasion was of three *months'* duration when he began gradually to gain *sufficient* power for this purpose, and while the sensory symptoms have improved, if anything more rapidly than before, the improvement in the motor symptoms has been much less rapid *The treatment* has been practically the same

Somewhere in the hospital records it is noted that the gait has the characteristic ataxia of tabes, and the *diagnosis* of locomotor ataxia is recorded, but while there were evidently distinct signs of ataxy, it may fairly be doubted if the gait was very similar to that so often observed in genuine tabes Since the patient has been under my observation, though the gait has been quite unsteady and he has been obliged to walk with a cane, I have not thought it strongly suggestive of tabes It should be added that he can not stand alone with his feet together and his eyes closed, and though the fact is not, I believe, stated in the history sheets, it is very probable that the condition existed when he was first admitted

The accompanying diagram, prepared by Professor Schaefer, of London, accurately represents the present state of our knowledge regarding the physiologic anatomy of the spinal cord and brain as regards the functions of motion and sensation

Considering this case in reference to this diagram, in connection with some of the best established facts in the pathology of the nervous system, I beg to make the following suggestions The symptoms could be accounted for by assuming a functional inactivity of the *peripheral* nerves supplying the muscles and integument of the extremities It should be remembered that these are mixed nerves containing both motor and sensory filaments It should further be remembered, that the process could not be regarded as being confined to the extremities of one or two particular nerve trunks, but to the peripheral endings of all the several nerve trunks supplying the skin and muscles of the hands and feet

Recent researches have demonstrated that the main function of the nerve cell is nutrition, and it is therefore reasonable to infer that if the function of the nerve cells (3 and 6) be impaired that the nutrition of their respective fibrous processes (5 and 7) would suffer, and furthermore, that the parts of these processes first to suffer would be the parts most remote from the cell bodies This hypothesis would explain why the disturbance of motion and sensation should begin in the fingers and toes and gradually extend upward It would also explain why the knee jerks were lost, because the lesion would involve the reflex arc (*a*, *7*, *8*, *10*, *3*, *5*, *m*)



a, skin on the surface of the body, *17*, a sensory cell in the medulla oblongata, *b*, sensory cell in the cortex of the brain, *c*, motor cell in the cortex of the brain, *D*, cell in the cerebellum where muscular movements are co ordinated, *3*, motor cell in the spinal cord *m*, muscle The course of a stimulus at "*a*" can readily be followed to the cortex of the brain and back again to the muscle, resulting in a muscular movement

The character of the early motor and sensory symptoms together with their mode of onset, excepting their chronicity, is very similar to that usually observed in cases described as ascending paralysis or ascending myelitis, but the absence of all constitutional symptoms, of disturbance of the functions of the bowels and bladder, together with the fact that complete and somewhat prolonged recovery ensued, make it apparent that the process did not advance to actual inflammation

As the patient is an intelligent man, one other statement might be made which to some extent supports the view that the function of the cell in the anterior horn of the cord was at least impaired, and that is, without being interrogated upon the point he volunteered the assertion that his legs and arms shrunk considerably In fact, if the shrinking noted by the patient were a slight degree of genuine atrophy it would be another evidence of the functional impairment of the cells in the anterior horn

So far as the patient could judge, his recovery was complete, as he himself frequently applied all the tests to which he had been subjected while in the hospital, and could discover no impairment of motion or sensation, and he was even able to stand perfectly well with his feet together and his eyes closed, but he could never succeed in developing a knee jerk Hence it would have to be assumed, unless he were one of those individuals naturally without a knee jerk, the full and complete functions had not been restored

Hitherto, when functional disease has been invoked to explain disturbance of motion and sensation, the process has usually been assumed to have its seat in the cortical cells of the cerebrum, and there seems no good reason to doubt that such an assumption is generally correct but at the same time there appears to me to be no good reason to suppose that functional disturbance might not be confined to the cells in the spinal cord

In this case a functional disease might be assumed to exist, confined to the cells of the cerebral cortex, which would account for all the symptoms excepting the loss of knee jerks which ought to be increased, or at least present in cortical disease, inasmuch as the inhibitory influence which the upper motor segment (*a*) in the diagram normally exercises over the lower motor segment (*3*) would be impaired, and furthermore, hysterical (cortical) quadriplegia with such an onset and with such sensory symptoms as the patient presented has not been described, so far as I can recollect I wish to repeat, therefore, that to my mind the type, course and distribution of the symptoms vastly favor the hypothesis that the lesion was spinal

It might be added that the absence of lightning pains, the rapidly progressive weakness and the complete recovery tell conclusively against a diagnosis of locomotor ataxy, while if myelitis had been assumed to exist and had advanced far enough to have given rise to such severe and persistent paralysis as happened in this case, some more marked indication of permanent injury to the elements of the cord and disturbance of the function of micturition together with increase of the knee jerks might be expected Neuritis advancing to so high a degree of paralysis would have been accompanied by severe pain, tenderness of the nerve trunks and marked atrophy

That the functional disturbance above described may indicate the approach of an organic process would seem to my mind not at all improbable

DISCUSSION

Dr Harold N Moyer—The case as presented by Dr Brow and his deductions from it are very instructive If we sto for a moment to consider the pathology of the nervous sys tem we are at once met with three periods The first include purely clinical demarkations with the terms locomotor ataxia spastic spinal paralysis, etc We then come to the perio of pathologic anatomy, and it was but natural the pendu lum should swing rapidly in the other direction, and that the term, locomotor ataxia, should yield to the term, posterior spinal sclerosis, and the term, infantile paralysis to poliomyelitis anterior acuta, and other terms distinctive of definite and fixed pathologic changes. That period, I think, has already passed, and we are confronted to-day with certain questions which negative somewhat the strict anatomic distribution of nerve lesions as, for instance, we no longer regard locomotor ataxia or tabes as a pure sclerosis of the posterior columns of the cord, but we class it under the general diseases of the nervous system, and so with many other affections. The reason of this is perfectly apparent. The first and most palpable lesion associated with a given set of symptoms was supposed to be by a direct and positive accounting for that set of symptoms, and he did not take into account the secondary conditions, that may have been produced by the later stages of an exhausting malady; in other words, a mixed change due to marasmus and other depressing conditions which come on late in the development of certain maladies. The pathologic anatomy of paralysis agitans is nothing more than a description of the pathology of the aged or those who die of exhausting diseases. Dr. Brown's paper is to my mind one step in advance along this general line. With regard to the differentiation which he attempts to make between functional and organic paralysis, I will try to point out what I conceive to be an error in his paper. He says that because the paralysis disappears and again returns, is to him evidence of functional derangement. While that may be according to the definition which the Doctor would attach to the term, functional, we know a vast number of organic lesions which pursue this course—paretic dementia, locomotor ataxia, and many other lesions which are associated with demonstrable and early pathologic changes in the nerve cells and nerve fibers, associated with such remissions as were noted in his case. I think also the Doctor's inability to distinguish between the possibility of a peripheral lesion and one involving the spinal cord is a point well taken, and one often lost sight of in the pathology of spinal lesions. I am confident that there is no means of absolutely distinguishing between peripheral nerve lesions and those which involve the anterior horns. I would differ, however, from the Doctor in regard to this being a purely functional lesion, but would not have too much importance attached to that difference, because this term, functional, and the term organic, are used altogether too loosely. I think there is a difference in the mind of almost every observer. One gives a certain definition and weight to the term, functional, and another a somewhat different one, and until the term is more definitely employed I certainly would not attach much importance to it.

I think the case is an exceedingly interesting one, and one that has been carefully observed.

Dr. James G. Kiernan.—As to this question of functional and organic conditions I agree with both Drs. Brown and Moyer in the main, since I do not think there is such a wide difference as might at first be assumed. What is beginning to be true of general neurology was true of psychiatry. At one period lesions were found to explain every form of insanity; at another period there were no lesions at all, and at still another there were doubtful lesions. In dealing, for example, with cerebral conditions which would correspond with the so-called functional spinal conditions mania, melancholia, etc., it is practically settled now that in about 15 per cent. of the cases changes only are present, which are secondary to those which went on in the primary stage. The way to avoid controversy regarding functional and organic, which terms run all through pathology, is to introduce the term and recognize the condition which is present. This change or condition may be designated bio chemical. Applying same analogy with regard to the psychoses to the neuroses, which are not very well defined pathologically, conclusions may be made backward from secondary conditions to what bio chemic change must have happened in leading up to them. More than twenty years ago, Charcot described a case in which hysterical paralyses, implying a spinal element, had so long continued that they had been followed by direct spinal lesions which were secondary to disuse and not primary, as was evident on autopsy being made and revealing certain conditions. Dr. Brown's paper raises the question whether in a large number of these spinal conditions (I will admit this position is taken largely by railway surgeons) there is not a temporary bio chemic condition which simulates, for the time being, almost all organic conditions. I am strongly of this opinion. For instance, a spinal condition may occur in neurasthenics. So called spinal neurasthenia may simulate locomotor ataxia completely. When I say completely, I mean even the lightning-like pains, which in fact here are not true lightning like pains, but topoalgia. When these conditions are continued long enough, in the place of a bio-chemic condition we have a condition of excitation of the local conditions which results in periodic organic change.

With regard to the case under discussion, a somewhat similar one was described about three years ago by Salemi Pace, under the peculiar title of "spinal amnesia." He intended to convey the idea by that term that some of the spinal centers temporarily, as it were, had forgotten their function under certain conditions of shock function, which was gradually regained, the manifestations however, meanwhile simulating various well marked myelitic conditions and sclerosis of the posterior horns. If the claims made by the railway surgeon could be accepted this condition would be ideally represented. Over exaggerated as these claims are, since the neurasthenic element is made to simulate everything from locomotor ataxia to myelitis, there are conditions where it may do that. I have been very incredulous as to these conditions, yet a year ago in consultation with Dr. Haskell, of Alton, I saw a case in which every one of the symptoms of locomotor ataxia were present, exclusive of the eye conditions. There was hyperemia of the optic disc, but no other change evident in ophthalmologic examination. There were bladder and rectal symptoms; the bladder symptoms were clearly of psychic origin. Up to this time the urine had to be drawn with a catheter for two weeks. I was satisfied it was one of those rare conditions of traumatic neurasthenia; the patient having developed all these symptoms subsequent to an injury which he had received from his own machinery. He was unable to pass urine without catheterization for two weeks. I was sure there was a psychic element in the case. The night after I saw him the catheter was unnecessary and the man went steadily on toward recovery. The knee jerks were absent, but subsequently reappeared.

In another case which was sent me by Dr. Ribert, of Omaha, the diagnosis of locomotor ataxia was positively made. The man had a gait similar to an ataxic, except it differed in that after he started to walk, and was observed closely, the gait got worse; whereas the ataxic gait, after the man gets started, gets better; in other words, the ataxic makes his cortex do the work, to a certain extent, of the spinal cord. This case had trouble of accommodation, and had hyperemia of the optic disc which had been diagnosed as optic atrophy. He had topoalgic pains which closely resembled the lightning-like pains of locomotor ataxia. That man entirely recovered under the Weir-Mitchell treatment, and static electricity.

A large number of temporary spinal disturbances, occur in lues, diabetes, diphtheria, etc. I am inclined to believe that in almost all the infectious diseases when the knee jerks disappear conditions which closely simulate organic diseases occur but recover These cases indicate that in the spinal cord a bio-chemic condition may occur which is not permanent, therefore is not organic, which closely mimics, nay, which precedes all these organic conditions, but which may recover under appropriate treatment This would explain one of the phenomena everybody has noticed, the cure of 'locomotor ataxia" by the quack, the religionists and the faith cures

Dr James A Lydston—A few points suggested themselves as the paper was read In the first place it seems with respect to the diagnostic manifestations in the case referred to, that we are too prone to come to a positively definite conclusion in our diagnoses, for the reason that we only have symptomatic phenomena to guide us It is all very well for us to talk about diagnoses after our patient is dead and the necropsy table shows us various pathologic changes to guide us, but we are delving somewhat in unknown realms, particularly with respect to the cases referred to in the paper this evening, for we know with reference to the diagnostic manifestations of spinal lesions that we do not always have positive unmistakable symptoms to guide us Particularly is this true with respect to tabes dorsalis, in which we know that in the majority of instances in the early stage there are no diagnostic symptoms to guide the neurologist in coming to a definite conclusion And it is here that we find the ophthalmologist comes most actively into demand, for in a certain percentage of instances in which tabes dorsalis and various other spinal phenomena are at issue, the ophthalmoscope is the only means at our command of determining positively the diseased condition It is particularly true with respect to these spinal lesions, and as I said at the outset of my remarks, it is only by careful examination on post-mortem that we find gross or microscopic pathologic changes to account for the various symptomatic phenomena that have caused the patient to consult us with reference to his condition I have in mind at this moment, a gentlemen, a prominent business man in the city of Chicago, who to-day is suffering with tabes dorsalis and does not know it, nor does he deem it necessary to consult a neurologist with respect to his condition It seems to me, that in view of these anatomic and pathologic considerations we must consider that, however apparent the disease is of a functional nature, it may be accounted for by circulatory and nutritional changes, and that these changes are caused by some focus or minute foci of disease at some point or points in the spinal cord These remarks are substantiated by microscopic examinations, anatomic investigations and by physiologic occurrences Another point that I wish to call attention to is the fact that the knee jerk is not always an absolute test in these cases, as the individual who is suffering with spinal disturbance may in some cases have no disturbance of the knee jerk that can possibly and unequivocally be defined So that I would say, in conclusion, that cases of apparent functional spinal paralyses are evidences, no doubt, of some pathologic change at some point either focally, or diffusely distributed throughout the cord or the cortical substance

Dr H M Bannister—I can add very little to this subject except to confirm what Dr Kiernan has said by giving my own experience not quite so striking as his, but still in the same general direction A case occurred in my observation in which there was typical locomotor ataxia, no symptom lacking so far as known at the time, yet it had not been recognized by the patient or his physician The diagnosis was agreed upon, and although at that time the specific nature of tabes was not generally believed in, I suggested and advised the use of specific treatment The man improved and died eight years after, I do not know exactly what his condition was during that time, but I think he died of a complication of spinal disease

The other case I will refer to bears closely on Dr Kiernan's case The patient was one of a neurotic family, one relative committed suicide, another was subject to various nervous troubles, two sisters were arthritic in the last degree, and he himself was subject to attacks of epileptiform migraine sometimes simulating true epilepsy In connection with his attacks, occasionally he would have symptoms of spinal disease strongly marked—the girdle sensation, exaggerated knee jerk, disturbance of the bladder, etc I do not recall all the symptoms at this time, but they were very suggestive of myelitis They all soon passed away and left him well for weeks or months at a time In connection with these attacks, one peculiarity of the case was that the knee jerk and deep reflexes were expressly exaggerated and the testing of them was a serious matter to him It threw him entirely off his balance All these symptoms were temporary, lasting from a few days to a week or two, and recurring at irregular intervals of weeks and months The case was one which I considered was largely neurasthenic, complicated, however, with more serious nervous troubles closely approaching attacks of epilepsy

Dr Brown (closing the discussion)—The term *functional* disease has a somewhat loose significance I employ it to designate a disturbance of the function of an organ when by our present methods of investigation no definite pathologic change could be demonstrated in that organ For the reason stated, it is pretty evident that in this the disease is spinal, and it is hardly conceivable that inflammation could have advanced far enough to produce the symptoms described and then disappear so as to permit a prolonged and almost complete resumption of the natural functions That the functional disturbance of the cord from which this patient has suffered may, so to speak, herald the approach of permanent organic changes seems to me not improbable, and if so it ought logically to be considered as the beginning of organic disease, while at the same time it is functional within the meaning of the term as above defined Strictly speaking, the existance of functional disease may be doubted, but nevertheless if used as defined above it is a very convenient term

THE ETIOLOGY AND TREATMENT OF INTERNAL STRABISMUS

Read before the Section on Ophthalmology of the College of Physicians, Philadelphia, Oct 16, 1894

BY HOWARD F HANSELL, A M, M D

PHILADELPHIA

I can not hope to discuss this extensive subject exhaustively, and I shall, therefore, limit my remarks to a brief consideration of functional internal strabismus arising from the unconscious constant contraction of the ciliary muscle in its effort to sharpen the blurred retinal image of the hypermetropic eye No theme in ophthalmology has received more attention A perusal of the literature of the last few years impresses the reader with the unanimity of authors as to their belief of the origin of squint and its proper treatment, yet shows great diversity of opinion 1, as to the part played by amblyopia, whether a cause or effect, 2, the result on vision of tenotomy, and he can not fail to remark that no important or decisive progress has been made since Donders' time, nor are we nearer a solution of the vexed questions than he was It is worthy of note that thirty years have passed away and our knowledge of the true nature of internal squint has not been materially increased No such stagnation marks the history of her branches of ophthalmology We boast of our ogress and justly, for has not the ophthalmoscope volutionized the study of intra ocular, intra cranial d constitutional diseases, and cocain and antisep- cs the surgery of the eye? But hypermetropic uint, notwithstanding conscious failures in its ire, remains where Donders left it His great dis- overy is accepted by the ophthalmic world The ost eminent authorities believe that hypermetropia auses squint The exceptions are a very small mi ority For my part do not question it nor, I believe, oes any ophthalmologist within sound of my voice

Does amblyopia precede or follow the appearance f squint? Is it the cause of the inward deviation r the result of the non use of the eye? Strabismic eakness of vision or amblyopia is thus defined by lfred Graefe "During the existence of a strabis- nus or after spontaneous or artificial cure, the vision f one eye is diminished below that of the other, and lose examination will reveal no cause or one entirely nconsistent with the grade of the vision" He ranges imself in opposition to those who say it depends pon the non-use of the eye or upon the uninterrupted ragging of the retina or nerve by the abnormal con ergence, and agrees with Knapp that the unequal ction of the external muscles does not develop stigmatism of the cornea and thus produce lessened ision The arguments he uses are familiar and need ot be repeated He believes that amblyopia is con enital and of central origin, and that hypermetropia s the prime cause of squint, which is maintained by shortening of the muscle, that but little improve nent of vision can be expected after tenotomy In hose cases of amblyopia without squint, he has been ble to determine an early squint, which spontane ously disappeared

Stilling's plausible theory of the position of rest s the cause of strabismus does not seem to have ained adherents It is scarcely tenable It is true hat, as he says, the bounds of relative accommoda- ion have been overstepped in strabismus, and binoc ilar fixation is no longer a factor in controlling the osition of the eyes, but this condition is induced y some antecedent power in active operation, such s hypermetropia, or by some anatomic peculiarity The squinting position is, no doubt, a subjectively omfortable and restful one, since it enables one of pair of misshapen eyes to assume the position in he orbit made necessary by the functional, and later natomic shortening of the muscle The factors he uotes as corroborating his view—the axis of the or- it, the position of the entrance of the optic nerve nd the topographical relation of the fibrous and soft parts—have been used as arguments by those who believe the position of rest is divergence The homonymous images discovered by experiments made with his own and friends' eyes by momentarily opening and closing the lids while gazing at a star, or light, or by artificial diplopia by Graefe's test, indicate simply the presence of a common muscular anomaly—esophoria, and can not properly be compared with results obtained by examination of a similar number of subjects while asleep or under anesthesia Before cocain was used in ophthalmology, it was no unusual occurrence to observe, during anesthesia for tenotomy, that the squint had entirely disappeared when monocular, or had been transferred to the other eye Schneller, in opposing the origin of squint out of "elastic superiority," and his expressions apply as well in disproving Stilling's theory says "I remembered that strabismus either disappears or becomes materially lessened in the condition of rest Yet more marked is this, in deep narcosis, when every active movement ceases Every convergent squint is lessened, in some entirely ceases, in a few goes over into divergence It is impossible to determine the effect of operation under narcosis Not only does convergent and divergent squint diminish or disappear in many cases, but is never, so far as I know, increased The same happens in the dead Weiss reports a case where the convergent squint materially lessened in the dead Also, I remember having seen, during life, a squint which was gone after death" Gardner, of Chicago, in a short paper in *The Archives*, in answer to Stilling's paper, says that squint which is found with amblyopia acquisita is usually the divergent form, arising in conformity with Nature's law that predicates that when an organ is not used, its function is gradually lost "If one eye has become blind from one cause or another, the struggle for binocular vision ceases When the good eye is directed to an object where convergence is necessary, the blind eye simultaneously converges by force of habit and in obedience to identical nerve stimulation, but as the object is not seen, convergence of this eye becomes unnecessary, and gradually it becomes unsteady, then lags behind and passes into a relative divergent strabismus which may or may not become absolute The exceptions to this rule are those cases which have enough hypermetropia to induce pathologic convergence, when the amblyopic eye assumes the convergence These are cases of amblyopia congenita and not acquisita" He denies Stilling's assumption that when one eye has turned in, the relation of accommodation and convergence is abolished On the other hand, the normal exercise of the accommodation in the straight eye is possible only because the squinting eye assumes the convergence of both Again, it is shown by numerous reliable writers, that it is possible to bring about amelioration or cure of the squint by resumption of the function of both eyes through the continued use of atropin and properly fitted glasses Now, if convergence were the position of rest, all inducement to recover binocular vision would be wanting and a cure would be in opposition to Nature's law Moreover, if abnormal convergence were the position of rest of hypermetropia we would find, not only convergent squint in hypermetropia but that it would be more common in hypermetropia than it really is

The coordination of the visual axes, or the want of it, depends upon several conditions, namely, the refraction, the vision, the relative strengths of the several external muscles, the axes of the orbits and the innervation, including the conductibility of the nerves, the functional activity of their nuclei and of the cortex Since our study deals only with purely functional deviations, we need consider only the bearing of the refraction, the vision and the innervation

1 *The Vision* —Congenital amblyopia, without anatomic changes in the media or fundus that can be detected by the ophthalmoscope or any other means, is associated with internal squint in about 75 per cent of all cases Vialet (Arch d'Oph Vol xx, p 289) analyzed 150 cases of strabismus, and found 122 with amblyopia He says that in eight of fifty one repeatedly examined cases, improvement of vision

began after tenotomy, and mainly in convergent strabismus with amblyopia of brief existence and low degree We can only speculate concerning the relation of amblyopia to squint We must confess ignorance of its true nature and of its etiologic connection It is generally conceded to be congenital, though the misleading surname "ex-anopsia" still clings to it That it can be benefited by operation is doubtful, "a pious hope rather than an assured expectation" (Noyes) That it does improve and in a short time disappear so that full acuity of vision is finally acquired in cases where, through accident, the good eye is destroyed, is illustrated by two cases reported by Johnson—one in the transactions of the American Ophthalmological Society of 1893, the second, in the *American Journal of Ophthalmology*, January, 1894 Why, then, does not the same good result ensue after tenotomy? For two reasons 1, because the parallelism of the axis of the squinting eye with that of the other is seldom obtained—it is simply approximate and conjectural, and 2, there is no incentive to binocular fixation The patient with sharp acuity in one eye will rely upon that eye for information of the outside world The dull image in the cortex or visual center, even though that on the retina is accurately defined, will be recognized, if perceived at all, as an annoyance to be suppressed A patient now under treatment, illustrates this point Vision of L is 20–15, R 20–40 I have succeeded by various operations, in making the axes meet at several distances, but he sees the sharp clear image of the candle flame of the L in the center of the large, indistinct, retinal or cortical image of the R, and instantly dismisses the latter by an inward or outward rotation of the R The final result is only cosmetic I can not agree with Fulton (Transactions, Ninth International Congress) and with Landolt, that vision of the squinting eye is improved after tenotomy, binocular vision being restored, and if the eye continues to squint, vision diminishes, but fully coincide with Wadsworth (*Boston Medical and Surgical Journal*, Jan 20, 1887), that amblyopia is not caused by squint or that amblyopia improves after squint is corrected I am inclined to go a step farther, and assert that convergent strabismus with amblyopia is seldom, if ever, permanently cured by tenotomy of the internal muscles and correction of ametropia, however accurate Stereoscopic exercise, upon which Landolt lays stress, is a useful adjunct in restoring muscular fixation in heterotropia, by exercising weakened muscles, but is of very little service in developing the function of a congenitally imperfect eye

2 The Refraction —Seventy-five to ninety per cent of convergent strabismus is found in hypermetropia Snell (*British Medical Journal*, 1887) makes a higher proportion He says convergent strabismus stands in direct connection with hypermetropia in 95 per cent Donders has shown that the relation or connection between hypermetropia and internal squint is that of cause and effect, and his theory has been almost universally conceded to be the true one Internal squint is occasionally found in E and in M In this small minority of cases it would seem as though some other hypothesis would be necessary, but this need is only apparent It would doubtless be found as others have said, that hypermetropia preceded the M, and again where a myopic correction is worn, the strain on the accommodation of too high a glass—or the attempt to correct, subjectively, an existing astigmatism, may produce exactly the same effect on convergence as the effort to overcome a shortened axis Again, some writers attempt to disprove the truth of Donders' theory by claiming, that according to it every hypermetrope should at some time of his life have internal squint This objection can be successfully refuted Valude (Archiv d'Oph, Vol x, No 4), teaches the true doctrine of the relation of hypermetropia to internal squint, when he says that convergent strabismus does not depend upon ametropia alone, but that a neuropathic disposition is an important, sometimes the principal factor Moreover, every one who has investigated the condition of the external muscles is convinced that esophoria is a very common anomaly in hypermetropia, and the phorias, or tendencies to squint differ from the tropias or actual turnings, simply and only in degree The exceptions are rare when we find equilibrium in association with any material error of refraction Thus we are again brought face to face with the incontrovertible fact, persistently and successfully advocated for the past twenty years, preeminently by the leading ophthalmic surgeons of Philadelphia, as was so ably presented to the Fellows of this College last spring by its honored President, that errors of refraction, particularly hypermetropia and astigmatism are the underlying cause of anomalies of muscular action and that no effort directed toward a restoration to equilibrium can be successful unless attention is first given to relief of accommodative strain by constant wearing of as near as possible a full correction of the optical defect The general profession is under deep obligation to Weir Mitchell, Dyer, Norris, Thomson and others for the light thrown by their clinical studies on obscure intractable headaches and other disturbances of the nervous system, which showed that their cause was to be sought in accommodative or muscular strain Ulrich concludes that squint is prevented in hypermetropia by reason of the muscles themselves through a relative weakness of adduction, corresponding in degree to negative accommodation or an absolute muscular incapability and the intellectual necessity of the visual act, which demand the fulfilled function of binocular vision and rebel against the disturbances of diplopia incident to commencing internal strabismus

3 The Innervation —Full binocular vision in uncorrected hypermetropia depends upon the accommodation, the convergence and their relation to each other Whenever the desire for binocular vision is impossible of gratification, for instance, when excessive accommodation demands excessive convergence, or when the hypermetropia of one eye exceeds that of the other by several dioptries—2 to 4—or this desire has never existed, the axes of vision are turned toward, rarely from, each other Thus we have two classes of hypermetropic squint—the alternating and the constant Again, as has already been alluded to, the disturbance of the relation of accommodation and convergence in hypermetropia does not necessarily induce an obliquity of one of the axes, but may develop latent squint or esophoria In the latter the desire for fusion is sufficiently strong to equalize, under pressure, abduction and adduction, in the former, abduction has yielded to the greater physiologic force of adduction In normal muscular action and innervation, the muscles are in equilibium—adduction equals abduction, R sursumduction equals L sursumduction, but, if by reason of he refraction of one or both eyes, unequal accommodation, or constitutional disturbances, the innervation or the power of the muscles to respond to the nnervation become deranged, we have a pathologic condition of turning or tendency to turn Here the tests employed under normal conditions to measure adduction and abduction are no longer reliable, and efforts to measure cerebral function, such as fusion force, by constant unalterable agents, like prisms, are attended with varying and inconstant results Therefore to say that in heterophoria, adduction equals so much, abduction equals so much, and thus to estimate the strengths of the separate muscles is not consistent with scientific principles While we measure adduction we are also measuring abduction A prism angle held before one eye will, if not too high, induce contraction of the internal rectus, rotating the cornea inward The opposite internal rectus will also be stimulated to contract, but if we want to hold single images the external rectus of that eye must contract equally to hold the axis straight This, again, by stimulating, abduction excites the external rectus of the first eye in equal degree, or, the contraction of the internal rectus of the eye before which the prism is held, acting in lateral movement, stimulates the external rectus of the opposite eye This can not rotate, but must be held fixed by its internal rectus, which in turn excites its corresponding external rectus in lateral movement in the opposite direction Thus when we say adduction equals 20 degrees, we mean adduction and abduction are both equal to 10 degrees and each muscle overcomes 5 degrees In testing sursumduction the same difficulties are met with and the physiology is still more obscure and complicated because eight muscles are involved in each experiment In actual deviations of one of the axes, adduction and abduction can *not* be measured by prisms, since there is no binocular fixation and can be only approximately estimated by observation of the lateral movements of the balls To learn the exact amount of deviation, it is essential 1, that the patient shall be compelled by all available means to recognize double images of a candle flame at twenty feet and nearer distances, and 2, that the distance between the false and true light be measured by the angle of a prism or by lineal measurement In manifest squint this distance will be found to vary but slightly from day to day, but in those cases which lie in the borderland between latent and manifest squint, when binocular vision alternates with diplopia the angular deviations are constantly changing, according to the innervation and fusion force exercised at the time of the examination By this method of examination it will be found that in every case of internal strabismus, the squinting eye is rotated upward The image of the candle flame will fall in the retina in a plane higher than the plane of the fovea, hence will be seen lower than the true image In pure internal rotation the images should be on a horizontal plane This can occur only when the patient's attention is fixed simultaneously on *both* images, a condition never found in manifest strabismus In monocular squint, by which I mean cases in which one eye is always used in fixation and the other always is turned inward, the squinting eye is rotated obliquely inward and upward, and the false image maintains a position lower than the true In alternating squint, where either eye may be used in fixation, the squinting eye is rotated inward and upward, and when the fixation is transferred to the former squinting eye the inward and upward deviation is also transferred These phenomena can only be interpreted by pursuing to its proper conclusion Donders' theory of hypermetropic squint

Abnormal convergence is induced through the supra normal contraction of the ciliary muscle necessitated in the effort for clear vision The stimulus thus received by the ciliary branch of the third nerve is communicated to the several nuclei of that nerve in the floor of the fourth ventricle and an order for corresponding contraction sent out to all the muscles supplied by that nerve If this stimulus could be limited to the interni, simple convergence would result, but clinically, it is shown that the resulting contraction is far more complicated and includes the superior and inferior rectus and the inferior oblique The simultaneous contraction of these muscles rotates the cornea upward and inward—inward because the opposing external is quiescent, upward, because the two elevators thus set into action overcome the one depressor

In alternating squint, the transference of fixation involves necessarily a transference of the strabismus The cornea of the squinting eye is directed inward and upward and not inward alone The degree of hypertropia bears a constant relation to that of esotropia I have never found it less than 2 degrees and often as high as 6 and even more If Donders' theory is correct that primarily hypermetropia and secondarily the accommodation in hypermetropia induces squint, it follows that it must also be the cause of the hypertropia This condition has often been observed and noted without explanation I have deemed it a matter of sufficient importance to make it the subject of several articles 1, because hypertropia is as common as esotropia, and 2, because cognizance of the upward deviation demands a modification of the usual methods of treatment, as well as of the prognosis

I agree with Carter and others in believing that in all cases of internal squint in which operation is advisable, the tenotomy should be divided between the two internal muscles, and that no permanent good result can be obtained by confining the procedure to the eye which at the time of the examination squints In constant squint, where the patient can never by reason of amblyopia, voluntarily transfer fixation, binocular vision can scarcely be expected, but the best result is obtained by tenotomy of the interni, the superior rectus of the squinting and the inferior rectus of the fixing eye It may also be necessary to suture the external rectus of the squinting eye In alternating squint, where amblyopia is never present and the patient arbitrarily chooses either eye for fixation, binocular vision can be obtained as a permanent result in the great majority of cases, by tenotomy of the interni The want of equilibrium of the vertical muscles is only apparent and should not receive direct surgical treatment

In all cases, without exception, the error of refraction must be carefully corrected and a full correction worn, and since the curve of the cornea has been known to be modified by tenotomy, the final correction should be made after operation In very young persons, tenotomy should be postponed until sufficient time has elapsed to demonstrate the futility of restoring binocular fixation by atropia, glasses, prism and stereopticon exercises and other measures

My conclusions, scattered here and there through this somewhat rambling paper may be tersely stated as follows

1 Amblyopia is congenital and not acquired, is not improved by tenotomy when high or of long duration, is always present in monocular squint, is not a factor in alternating squint, can be replaced by full acuity of vision after the hitherto good eye has been rendered by accident or disease inferior to the squinting eye

2 In monocular constant squint the cornea of the squinting eye is turned upward as well as inward

3 In concomitant or alternating squint, the non-fixing eye is turned upward as well as inward, and with transference of fixation there will be a transference of both the upward and the inward deviation

4 Donders' theory, extended to include all the muscles supplied by the third nerve, and not the interni alone, is a sufficiently satisfactory explanation of the upward deviation

5 Atropia and full correction are, in many cases, curative agents

6 All operations should be done under cocain anesthesia

7 In monocular squint, vertical equilibrium must be restored by tenotomy, while in alternating, division of the interni is sufficient

THE MENTAL CONDITION OF ARTHUR DUESTROW

A REPORT SUBMITTED TO HIS ATTORNEYS

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At the instance of Hon Charles P Johnson, his attorney, I examined Arthur Duestrow, with a view to determine whether he was sane or insane The circumstances to consider were that the client stood indicted for the brutal and motiveless murder of his wife and child, that he had been in confinement, in jail for several months, that he had manifested symptoms indicative of an abnormal mental state, and that the plea of insanity was the only possible preventive of punishment for his atrocious crime These circumstances made it obligatory upon me to examine him with special reference to the possibility of his feigning insanity as a means of escaping the legal penalty that threatened him

I visited the prisoner several times in the jail at the Four Courts in St Louis He received me kindly and was on all occasions when I was with him polite in manner and remarkably communicative He always expressed himself with freedom and with every outward sign of sincerity He willingly submitted to my physical explorations, and gave me every opportunity to satisfy myself

Physical Examination —He was 26 years of age, and his appearance accorded with his years He was in a fair state of bodily nutrition, though he weighed several pounds less than he did at the beginning of his incarceration Height, nearly six feet His color was good, and his circulation perfect The heart was found to be normal, pulse rate, normal There were no signs of pulmonary disease of any kind His appetite was excellent and there was no evidence of gastro-intestinal disturbance There were no symptoms to indicate a diseased condition of the kidneys His general physical development was good, the muscles were quite firm and fairly developed, considering his past confinement, the skin presented no anomalies Inspection revealed no marked physical sign of degeneracy His head was slightly above the average size, and presented no asymmetry The ears were well formed and the jaws did not deviate markedly from average standards in form

Nervous System —There was no indication of paralysis, paresis or incoordination, no tremor Cutaneous sensibility was normal The knee jerks were present and equal, the pupils reacted normally to light and accommodation, and were of equal and normal size Articulation was perfect—distinct, unhesitating, no fibrillary twitching of tongue or lips Sight and hearing were perfect, and there was nothing to indicate anomalies of any of the special senses No complaint of pain of any kind was made, nor of vertigo There were no scars indicative of epilepsy

From these findings I assert that Arthur Duestrow was not suffering with any functional or organic disease of the peripheral nervous system or spinal cord, that there was no organic cerebral disease in his case, at least that the presence of such anomalies in him were not discoverable by any means known to science Thus the only remaining possibility of disease was that of functional cerebral disturbance

Cerebral Functions —Emotional state or feelings There was no sign of depression of feeling—an absence of all the outward expressions of a feeling of sadness or melancholy, the emotions changed with the change of thought, showing no sign of affective inhibition In striking contrast with such a possibility, his mood, or state of feeling was, on the whole, one of mild expansiveness, expressed in an unmistakable show of satisfaction with self and a manner indicative of a sense of superiority to others

This emotional state was one that could have no rational root in his circumstances He was in confinement, deprived of all the amenities of life, associated with the lowest class of men and awaiting trial for his life Instead of remorse, sorrow, anxiety, fear and depression, his manner, facial expression and conversation revealed a state of mental feeling in striking contrast with these Had he been an innocent man he would normally have had great cause for fear, since in the newspapers which he received daily he read of the intense popular prejudice against him, as a malingerer, he would necessarily have recognized the small chance of escape he had, even though he simulated insanity to perfection All these circumstances tending to bring him to some expression of doubts, fear or anxiety for his future, were absolutely without their normal effect on him On the other hand, the absence of these natural feelings was not occasioned by indifference of his future The ideas he expressed were in complete accord with his general mood, he was hopeful, ambitious, proud and self assertive, and the ground for all these was evident in the thoughts he freely expressed, which, at the same time accounted for the apparent absence of remorse and regret His feeling of satisfaction was so marked and so predominant as to perfectly withstand the presentation and emphasis of facts which would dispel it in any normal person, pervading consciousness so exclusively as to overcome any tendency to irritation and anger that would naturally flow from strenuous contradiction and opposition to his views If this remarkable state of feeling was assumed for the purpose of deception, it was done with a perfection and unchanging persistency that absolutely defied its differentiation from a genuine emotional state

Aside from this state of mild emotional expansiveness, there was no exaltation of feeling in any way resembling the emotional state, characteristic of mania and maniacal states Therefore, I pronounce the prisoner free from mania and melancholia, and from any disposition to feign either of these

To form a judgment of his intellect, conversation was used to test his powers of perception, attention, memory, imagination, reasoning and judgment His perceptions were lively and more or less accurate, he had fair power of attention, his thought was quite clear, his reasoning logical, and he displayed remarkable activity of imagination—all with reference to the premises which formed the material of his mental operations He entertained a great variety of ideas of intricate construction and complicated association These facts were sufficient to demonstrate that the prisoner was not afflicted with any form of mental weakness or confusional insanity, and that he made no effort to simulate such a disease The forms of insanity incident to the originally normal brain having thus been excluded, the inquiry became reduced to the existence of the real or feigned existence of some degenerate form of mental disease Of these forms, the foregoing considerations, taken with other evidences—which need not be enumerated—have already excluded all but one, namely, depressive reasoning insanity, periodical and circular insanity, and the mental diseases from the neuroses, epilepsy, hysteria, etc Thus by exclusion it was certain that he was sane, or had or was feigning the only remaining form of degenerate insanity—paranoia

Paranoia is the name of a *chronic progressive* mental disease, usually manifested in systematized delusions that are of primary origin, that is, delusions that do not arise out of preceding mental depression or exaltation Commonly this disease is a result of conditions inherent in the brain organization of the individual which determine the form of the disease Study of cases of paranoia shows that there is always a history of mental symptoms which antedate the development of the perfected delusions, and often other symptoms of a vicious constitutional state of the nervous system in general, and to these are added in many cases the existence of nervous and mental diseases in ancestry that have been influential through heredity However, paranoia may arise in persons whose heredity is in nowise at fault, and in this case it is usual to find that some decidedly injurious influence has affected the individual early in life in such a way as to lastingly and inherently harm the nervous constitution Since the constitutional defect which underlies paranoia is imperfection in generation and development, paranoia, with other mental diseases of like origin, is called degenerate The degeneracy at the bottom of paranoia varies in degree, and we observe corresponding variations in the mental symptoms Thus the deeper the degeneracy, the earlier the mental disease appears, and the more sure and rapid is the progress to a condition of permanent mental weakness

The delusions of paranoia all concern the person directly They are of two kinds Delusions of persecution and delusions of grandeur Again, the earlier in life paranoia appears, the greater the chance that the delusions will be of a grand character, hence primary delusions of grandeur indicate deep degeneracy and presage early development of permanent dementia Arising late in life, the delusions of paranoia are almost certain to be of a persecutory nature, and their character may remain unchanged throughout life Where primary delusions of persecution arise early in life and are on a deeply degenerate foundation, they are apt to change in character, and this change affords a trustworthy indication of the further course of the malady This change of delusions of persecution is called the *transformation* This consists of a change of primary delusions of persecution to delusions of personal aggrandizement The transformation, whenever it occurs, is a sign that dementia will ultimately come on, and the earlier it takes place, the more rapid the progress to mental weakness will probably be When the transformation has taken place, there is not necessarily an entire absence of the former persecutory ideas, rather they are overshadowed by the grand delusions Occurring with the change of ideas, there is a corresponding change of feeling While persecuted the paranoiac is morose, sullen, silent, suspicious, treacherous and often violent, after the transformation, he becomes talkative, friendly, self-satisfied, proud and important, and may even go so far as to excuse his former imaginary persecutors

The process by which the transformation is accomplished varies It may result from a chain of reasoning, it may take place suddenly as a result of an hallucination, a dream, etc Whether the result of a reasoning process or not, the secondary delusions of grandeur are always intimately logically connected with the primary delusions of persecution Thus one person concludes, as the logical outcome of his persecutions, that he is entitled to some great privileges of honor, position or fortune which usurpers are in the enjoyment of, and he attributes his persecution to those who occupy the place which he fancies belongs to him Under appropriate surroundings of life and circumstances of education paranoiacs, after the transformation, become in their thought kings and princes, religious reformers, political enthusiasts, heirs to great estates, great inventors or discoverers Love plays a prominent part in some cases It is customary in text-books to make numerous classes of paranoia in accordance with the particular nature of the ideas expressed, but such subdivisions are of very minor importance, and besides in a single case we frequently find a combination of ideas which would require very numerous descriptive terms Thus in all cases of paranoia, we find sexual elements, we rarely miss a distinct philanthropic motive, after the transformation, religious ideas are but exceptionally wanting, and political views of a delusional character are as common The reason for this expression of false ideas on so many subjects lies in the fact that the whole mental personality is implicated, and therefore all thoughts and experiences are necessarily and intuitively brought into harmony with the fundamental mental tone

In paranoia the logical and associative powers of the mind are not necessarily impaired, rather mental associations are facilitated as a result of the extraordinary intensity of consciousness characteristic of the disease This intensity of consciousness of a direct personal kind accounts for the instantaneous mental assimilation of all ideas, no matter how incongruous or contradictory, and the forcing of them into immediate association and logical relationship with the predominating delusions Such a phenomenon as this is only possible before much mental weakness has supervened This automatic assimilation of incongruous ideas shows that in such a case all power of critical examination of facts has been lost, and thus even here there is actually loss as well as distortion of mind

Hallucinations and illusions, while not a necessary accompaniment of paranoia are rarely wanting, and when present they afford important sources for the creation and elaboration of false ideas

It now remained to determine whether the prisoner presented a mental condition like that present in paranoia, and if so to ascertain whether it was a product of disease or voluntarily assumed to deceive

The expansive mood previously described as presented by Arthur Duestrow, corresponds in all its features with that observed in cases of paranoia after the transformation has taken place In this case the state of feeling was out of all harmony with actual external conditions Was it in harmony with ideas entertained by the prisoner?

The prisoner's conversation was free and open, there was nothing in his manner to raise a suspicion of a lack of frankness, his mien was open and straightforward Thus there was no difficulty in inducing him to be as communicative as desired Without prompting, he went into a detailed description of ideas and experiences of a very remarkable character He said that he had made the greatest discovery of modern times, namely, the fact of mind-transference and the ultimate possibilities of hypnotism and animal magnetism By means of this discovery he was about to revolutionize all medical sciences, and liberate the world from crime, vice, and maliciousness His discovery made clear to him much in his own life that had before remained inexplicable Hypnotic influence and malicious thought-transference had been used by his enemies to control and persecute him Thus he had been induced to drink, and injure his wife and child After his incarceration began, the same influences had been used to persecute and annoy him constantly, thus driving him to attempt suicide Machines, telephones, batteries, etc, had been used in this way, by placing them in hiding in his cell and elsewhere, and he had been made to have hallucinations and delusions by the same means This state of unmitigated persecution had continued until he had suddenly discovered the nature of the means used and the great preventive to overcome their malicious use Since this sudden discovery he was still the object of persecution, but he obviated its effects by using his great preventive He explained the prevention now as the natural consequence of his being a great pioneer in a new field, likening himself in this respect to Christ, Columbus and others In this influence of hypnotism, thought-transference and animal magnetism he found an explanation of all diseases and the way to cure all diseases He gave the details of an elaborate and impossible theory of the relation of the spleen to the "glandular system," the blood, the body, the convolutions of the brain, and its effect to cause and cure disease by means of animal magnetism His preventive consisted in his knowledge that possession of the "positive and negative sparks" would keep off the influence of "malicious thought-transference He had become so accustomed to use this preventive that he could apply it effectually even in sleep, to save himself from persecutors who sought to gain control of him by exercising their influence on him while he was presumably unconscious and unable to protect himself He asserted that all persons who in any way looked like him, had the same thoughts, the same feelings that he had, that when he was persecuted, those like him were similarly annoyed and controlled He explained an elaborate system of colored sparks which evidenced great imaginative ingenuity He sought to show how he could anesthetize a person at a distance by taking chloroform himself and transferring its effects by means of thought Since his discovery he had become able to exercise the influence on any one He could make any person do what he willed, think any thought he desired, read their thoughts, etc, etc

The prisoner made several attempts to display his boasted powers which was successful only in his confiding imagination These attempts were offered as demonstrations of the truth of his assertions He tried to tell the hour by means of the mind of a third person in sight of a public clock, to transfer the odor of a rose from a flower-shop blocks away He told of various vulgar acts to which he had forced others by his power There was a sexual tinge in much that he said His discovery had enabled him to read the thoughts of men the world over, and thus he was able to foretell human events In this way he had learned of his elevation to a high position as surgeon in the army, of his relationship to certain aristocratic persons in Germany, of his election to the College of Jesuits by the Pope for services in revealing the dire designs of members of the Church of God directed against the Church of Rome Moreover, by the use of his powers he had converted all the physicians who deemed him insane to complete recognition of his sanity He told how, controlled by malicious thought-transference, he had been made to shoot his wife and child, but explained that the wounds were merely superficial and that they had recovered and now understood what had forced him to act so unnaturally, he had seen his wife and child (illusions) and was therefore convinced that the proceedings against him were a farce and about to be dismissed The effort to prove him insane was but a ruse of his enemies who sought to influence the lawyers and doctors and make them believe him crazy, in the hope to get him into an asylum He would show at his trial that he was sane and all the doctors insane He gave a history of himself which showed that he had repeatedly had illusions and hallucinations, and while under examination he frequently gave signs of having rudimentary hallucinations His description of hallucinatory experiences was remarkable for its originality and for its perfect correspondence with that given by insane persons of their mental phenomena

This recital of his ideas might be much further extended, but such a narrative could add nothing to the foregoing exemplification of the general nature and character of his intellectual operations

The prisoner's description of his life in jail and the evidences at hand, showed that at the beginning of his confinement he had delusions of persecution and hallucinations, that his mood, corresponding with these, was then silent, sullen and suspicious, that suddenly, after some months, a change had come which was the inauguration of his present state of thought and feeling The persecutory ideas had persisted but had become subsidiary to the grand delusions and logically connected with them

No kind of contradiction or demonstration caused him to change countenance or modify his views and assertions There was perfect harmony between his grand ideas and his expansive mood

The manner in which the prisoner conversed and defended his impossible and absurd notions was remarkable for the readiness and rapidity with which incongruous ideas and facts were accepted, distorted and explained from his delusional standpoint The effect of trivialities in their suggestive relation to his mental operations was at once a matter of surprise and wonder to one observing it It could not be adequately described in words Never was there anything thus exhibited in any way out of harmony with his predominating state of consciousness These were the most striking features of his mental condition taken with the constant display of his lack of critical powers

In his ideas we find delusions of persecution, personal aggrandizements, sexual tinge, religious tendencies, philanthropic schemes, etc He gives evidence of having had all the symptoms of the developments course and transformation of the mental state seen in paranoia, of having at present the symptoms characteristic of that disease after the transformation has taken place His hallucinations and illusions are characteristic in their minutest details of that malady The instantaneous assimilation of all kinds of sense impressions and ideas, and their immediate harmonious association in consciousness, are again characteristic of certain stages of paranoia Throughout all the system of symptoms he presents there is a perfection of harmony in their combination that leaves no doubt that he exhibits an exact portrayal of a definite type of mental disease, and that the type is paranoia Were these symptoms feigned? Since they correspond in minutest detail in development and course with a very definite form of disease, and since they are of the greatest complexity, if feigned, their presence betokens the most profound knowledge of insanity, which could come only after years of study and observation of the insane in constant association with them Such a knowledge could not be gained from books, much less imparted by word of mouth If the prisoner can be shown to have spent years with the insane, and to have a mind far above the average, we may allow, for the nonce, that he feigned these symptoms Allowing this, we should expect an absence of all the ordinary signs of feigning, as we do in this case Allowing that the prisoner is simulating, with such a profound knowledge of insanity he would certainly choose an easier part to play Mere delusions of persecution would serve the purpose of a simulator as well, there would be no need to go through the transformation, no need to bring in all ideas—sexual, religious, philanthropic, etc However, in the symptoms presented by the prisoner there is an element which no person could successfully simulate, no matter if a master in knowledge of the insane mind, namely, that rapidity of reception, association and delusional interpretation of all external impressions, experiences and ideas, no matter how inharmonious or contradictory they are in fact,—a process in which there is never any flaw, never anything incompatible with the fundamental state of consciousness Such rapidity of assimilation and association of mental impressions is seen in other forms of mental disease, but never with the logical connection and systematic creation of mental combination that characterize it when present in paranoia

The presence of this element, associated with the other mental symptoms in this case, is positive and unmistakable evidence of disease, and as positive evidence of an absence of feigning In any case of feigned paranoia this element would necessarily be lacking, for it is impossible for a normal mind to act in this way The normal mind, in possession of its ordinary critical powers is, as it were, by a psychologic law, forced to exercise criticism—to compare, weigh and consider, this requires time, and is shown outwardly in hesitation, delay, uncertainty, and equivocation in the expression of judgments The paranoiac's mind, devoid of the power of criticism, has no need to weigh or consider, as it were, the explanation of any possible event that can be presented to his mind is ready, created before the event is perceived In other words his mind receives everything automatically, is never surprised or led away from its predestined path of activity The reason for this peculiarity lies in the fact that the operations of the mind of the paranoiac are directed by inner cerebral conditions, whereas, in a normal mind the mental activities are constantly modified by the logic of impressions coming through the senses This process peculiar to the mind of the paranoiac, is involuntary and incapable of voluntary imitation

The origin, development and transformation of the prisoner's delusions are sufficient to demonstrate their relation to disease, but it might be objected that some other proofs were required to show his false ideas to be insane, rather than sane delusions, for a delusion *per se* is no sign of insanity A sane delusion is a false belief that has arisen as a result of teaching, ignorance, or erroneous interpretation of experience Such a delusion may be so tenaciously held as to resist all powers of demonstration and argument, and require a course of careful education to eradicate it A sane delusion may at any time become an insane delusion, when appropriate conditions arise in the individual For example, many normal persons entertain delusions concerning so called thought-transference Under normal conditions this error has merely an abstract value for the mind that entertains it, it bears no concrete and immediate relation to the individual. To become an insane delusion such a false belief must be brought by the mind into direct bearing upon its operations, the person must find within himself reasons which convince him of this relation—he must interpret inexplicable inner events, activities and sensations as due to the operation of the influence which he has previously believed in only in an abstract and impersonal way The changes within himself may be normal or abnormal, the absence of critical power which enables them to be brought into immediate relation with the false belief is always due to a diseased mental condition

Thus in the prisoner's case, his delusions are insane delusions because, in the abnormal absence of critical power, he brings them into direct relations with events, sensations and phenomena which are present only in his inner consciousness These facts are sufficient to show beyond a doubt that Arthur Duestrow is insane, that he is suffering with paranoia, and that he is incapable of understanding the nature of the trial he is approaching

I have never seen or heard of recovery in a case of genuine paranoia I am confident that in this case an examination of the ancestral and individual history would reveal the degenerate basis of the malady Remembering the comparatively early age (25) at which the disease reached complete development, the rapid and early completion of the transformation, and the absence of critical powers, it seems probable that dementia will supervene with comparative rapidity By this, I mean as compared with the oncoming of dementia observed in ordinary cases of paranoia It may be several years before the mental weakness becomes so apparent as to strike a lay observer "Acute paranoia," so called, is a curable disease, but to apply the word, paranoia, to any form of acute mental disease is to do violence to scientific nomenclature, there is no reason to regard this case as one of acute mental disease

Aside from the probabilities mentioned, there are other possibilities that must be considered in this case In any case of paranoia, remissions of short or longer duration may occur, and in such an event there is an apparent return to mental health for a time, but always ultimately the symptoms reappear, and the former delusional creations are again taken up and further elaborated Moreover, a paranoiac may at any time simulate sanity, and that so successfully as to deceive all but the most experienced observers The simulator of sanity reasons in this manner "As long as I talk about my ideas, they will think me crazy and deprive me of freedom, therefore I'll conceal my ideas and accommodate myself to those who restrain me" This ruse is only too frequently successful in bringing about release from custody, and numerous paranoiacs have thus hastened from the asylum to kill some person representing an imaginary enemy The ideas of the paranoiac are not necessarily "fixed" or unchangeable, and therefore it is to be expected that those at present entertained by the prisoner will alter more or less in time, though their general nature will not change until permanent dementia has supervened A paranoiac may, like any man, become subject to an organic disease, such as paretic dementia, or his fundamental malady may become complicated by some acute mental disease

Such a consideration as this, suffices to show the utter absurdity of defining a paranoiac as a person whose opinions differ from those entertained by the majority of mankind Opinion, like a delusion, can never be a sign of insanity until it can be shown to have a foundation in disease [1]

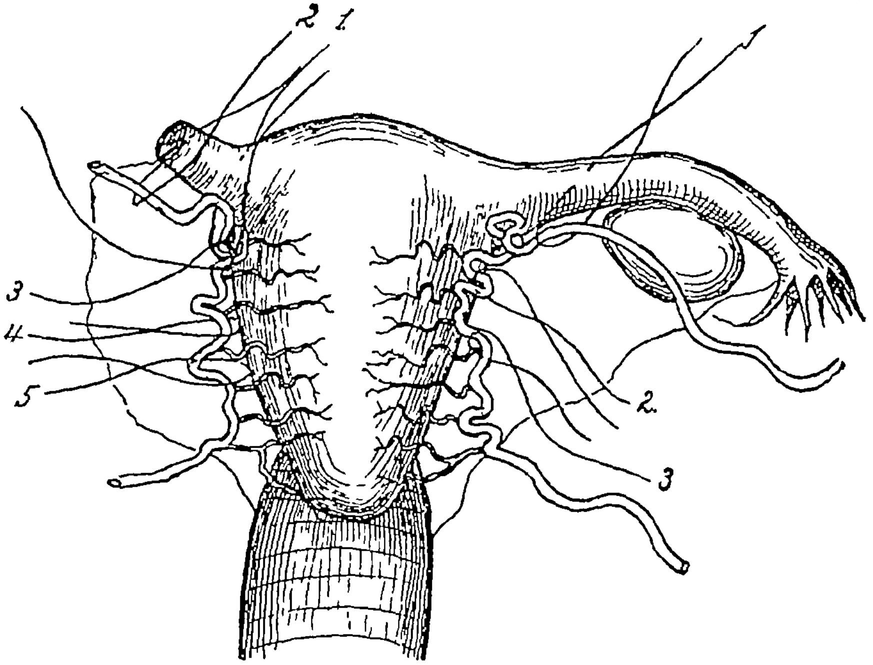
1320 Union Trust Building

REMOVAL OF THE APPENDAGES AND LIGATION OF THE UTERINE ARTERY TO THE UTERO-CERVICAL JUNCTION

REPORT OF THIRTY CASES OF A NEW OPERATION

BY BYRON ROBINSON
CHICAGO

The above operation I introduced about two years ago The technique consists in ligating the appendages and then snipping them off An aneurysm needle armed with a double ligature is then passed through the broad ligament at the cervico-uterine junction on the inner side of the uterine artery The one ligature is tied along the side of the uterus including the perpendicular arteries of the uterus, the Fallopian tube, round and ovarian ligaments The other ligature is tied on the broad ligament including the ligamentum infundibulo-pelvicum Another method consists in ligating and removing the appendages and then simply ligating the uterine artery once or twice as it courses through the broad ligament by the side of the uterus as low down as the neck The first method is the best, as it atrophies not only blood vessels but nerves and ganglia We have ligated the uterine artery down to the cervico-uterine junction in nearly all of the cases No symptoms of tissue death in the uterus have so far appeared in any of the cases In some cases pain is severe from twenty-four to forty-eight hours, but it seems due to trauma by the ligatures on large numbers of nerves and ganglia This pain can be quieted with $\frac{1}{16}$ gr morphin once or twice, for the main pain is generally over in fifteen hours This operation can be widely applied in surgical gynecology It pro-



This drawing is intended to show the method of operation The right tube and ovary have been tied by ligature 2 and removed Ligatures 1 and 3 are introduced on an aneurysm needle and tied Ligature 4 shows the lowest point at which I have ligated Ligature 5 might be considered to be within the danger line The left tube and ovary have not been removed, but ligature 1 includes the tube and artery I have ligated the uterine artery as low as the point indicated by ligature 3 on the left side The drawing is somewhat diagramatic, but the arteries are as natural in their position and relations as I could draw them Lately I have only used one double ligature to ligate the artery fully as low down as No 5 ces sufficient shock on the circulatory and nerve paratus to quickly atrophy growing uterine myo-ata The effect of ligating the uterine arteries as ey course through the broad ligament is to atrophy e endometrium rapidly—checking endometrial se-etions and hemorrhage The pelvic floor is pre-rved intact by this operation, obviating the danger vaginal hernia

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[1] In this report, the legal requirements restricted the writer to the condition of the prisoner subsequent to the homicide thus an important part of the medical aspect of the case was excluded The facts, however, show that there is alcoholism in immediate ancestry, and hysteria in immediate collaterals The previous history of the prisoner shows marked mental dullness delusions of suspicion, sexual perversity and intolerance of alcohol The double murder was presumably connected with a state of alcoholism, and the fully developed mental distortion was manifested immediately after the murder Thus far it remains uncertain whether the crime was directly the result of delusions, or the deed of an insane man excited by a triviality to ungovernable rage

In a vaginal hysterectomy made by Dr Lucy Waite ith my assistance, a vaginal hernia followed several onths after the operation This operation brings on e menopause rapidly It followed in two months one case The operation leaves a functionless, rophic, normal positioned uterus, which so far nong our patients has given no trouble This port is based on thirty operations made during the st twenty six months In several of the cases I sisted Dr Lucy Waite and Dr Bertha Van Hoosen, d include them in the report The utility of the eration consists in the following points

1 It checks hemorrhage
2 It arrests menstruation
3 It elevates the uterus
4 It shrinks the uterus
5 It avoids the removal of uterine myoma
6 It avoids vaginal hernia

We have proved that the operation is suitable to very one of the above six propositions Dr Van Hoosen reports that not one of the cases in which I ssisted her in operating has menstruated I know f not a single case in which Dr Waite and I ope-ated where menstruation continued We removed he appendages and tied the uterine arteries on a atient 37 years old, with a myoma extending above he pelvic brim Three months later the tumor was ecreased one half, eight months later the uterus is hat I should term almost normal in size The ope-ation shrinks the metritic uterus, which nearly lways accompanies suppurating appendages It hrinks the endometrium so that excessive secre-ions are checked I have proved the shrinking or trophying of the large, hard, metritic uterus, time fter time, by subsequent examination The opera-ion elevates the retroverted uterus and maintains it n position It is superior to hysteroexey, as it leaves movable uterus

Two months ago I operated with Dr Verity, of Chicago, on a case with diseased appendages, and with a large, hard, retroverted metritic uterus We emoved the appendages and tied the uterine arteries lmost down to the cervix Eight weeks subsequent o the operation I examined the patient and the uterus was in distinctly normal position, it was movable and had shrunk at least one-third in size Two objections might be raised against the operation

1 The danger of gangrene
2 The ligation of so much tissue

I do not consider it an objection that one might penetrate the bladder with a ligature armed needle, or a ureter might be included in the ligature, as any other operation is encumbered with similar dangers The idea that the ligatures might become infected and produce subsequent fistule, is not a serious objection I would suggest that the ligature which includes the broad ligament should not include the Fallopian tube with its mucous membrane, as that might enhance the chances for suppuration The needle could be passed just beneath the tube This method ought not to protract the operation more than ten minutes In the thirty cases, one patient died from the results of the operation The patient was a weak, worn out woman of 37, who had a myomatous tumor for some six years The broad ligament was tied in sections and the tumor shrank so rapidly in four days that it produced a kink in the bowel by dragging on it The bowel was not completely obstructed The patient went on well for four days, after which she suddenly sank in a few hours, without many symptoms An autopsy revealed the fact that in four days the tumor had shrunk enormously, and a kink was found in the bowel The debility of the patient and the worn out nervous centers were to blame for this death The other death among the thirty cases was due to urinary suppression on the sixth day in a woman who had almost flowed to death during six years with a large uterine myoma. The case progressed well for six days after the operation, when the urine ceased to be secreted and she died about thirty-six hours later

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THE SURGICAL TREATMENT OF INJURIES OF THE HEAD

TREPHINING FOR CLOT AND PRESSURE SYMPTOMS—NO FRACTURE

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In view of the great apparent progress in cranial surgery, in many forms of disease as microcephalus, idiocy, hydrocephalus, tumors, compression, clots of blood, cases where a transmutation of structure may take place, viz, hyperplasia of connective tissue, neuroglia of Virchow or glioma, I report a case to show what may be accomplished in the earlier stages of severe injury in aid of a final recovery We must in some degree comprehend the structure and anatomy of the relations of the brain, how protected by its membranes, its bony case, its supply of blood within and without, the sources of blood supply internal and external, and comprehend the dilatation and contraction of the vessels under vasomotor influence, the reflex irritation upon vessels, the difference of cause in coma of compression and cause of irritation which may be reflex or direct, the relation of blood supply to connective tissue, before we are in any sense, in a condition to comprehend the many varieties of symptoms which present themselves, as in disease or injury, which progresses to very serious results The result of experimentation upon the brains of mammalia with organizations much inferior to man, leave many questions as yet unanswered in regard to the human brain

The diseases of motility, speech, sensibility and special sense all require a large comprehension of a very large number of pathologic facts which have been so far utilized in connection with the more recent developments in histology, so that to some extent a clinical summary is being reached which enables us in a measure to make out a clinical or surgical diagnosis with some degree of certainty

Again, cerebral lesions are revealed by symptoms which when classified, enable us with some certainty to reach a diagnosis, for instance, we find a large group of symptoms which are cerebral or cephalic, which are an entire departure from normal conditions and which, though beginning as to brain, produce disturbance of function of one-half of the body Consciousness is in entire abeyance, and we have excitement, incoherence, delirium, or we have the opposite conditions of entire absence of brain power in any manifestations of intellect, or if any brain intelligence is manifest there is a complete abolition of motor power by which the senses operate externally Paralysis of motion and sensation, especially on one side of the body, indicate physiologically, the crossing of fibers as they pass to the cord by way of the medulla oblongata, so that we begin to locate and classify symptoms Irritation of motor functions, shown in stiffness, spasms or rigidity, clonic or choreic convulsions, with derangement of coordination or tremors of a limb of one-half of the body The peculiar group of cerebral paralyses are less often produced by hyperemia or anemia of certain brain regions than by localized lesions of a sudden or acute character, viz hemorrhage, serous effusion, inflammation and results, or hemorrhagic clot and compression because of a more or less widely diffused injury In addition to these in immediate origin are the results of primary and secondary lesions causing arrest of motor or sensory impulses, because the paths or lines of transmission are injured, compressed or destroyed The doctrine of localization of function has done much to clear up our ideas as to the relations of certain, local and definite functions residing in a special part of the brain, and thus following out the demonstrated relations of function we are enabled to clear up the diagnosis

It is well recognized that the hemiplegic type of paralysis upon the opposite side to cerebral lesion is due to disease of motor centers as corpus striatum and lenticular nucleus, or to localized lesions of the cerebral lobes involving the peduncles and pons-varolii The paralysis of one-half of the body appears in the muscles of the limbs, the extensors and the contraction of the antagonists The muscles of the paralyzed side generally undergo no noteworthy change in electric sensibility

This and much more might be said in reference to the varying conditions which may obtain in case of an injury which may be first, concussion, followed at once by symptoms of compression, which may and often does require surgical diagnosis and operative measures to relieve the compression, as in the case I am about to present

Case 1—Mr W , a citizen of Midland and a cattle man, had gone out to his ranch to look after his cattle He rode a horse which was not well broken, and for some reason, not known the animal reared and threw his rider, his head coming in contact with a pile of stone, which struck him about the superior margin of the left parietal bone near the parietal protuberance, producing a contusion of the scalp and also cut down to the bone His skull was supposed to be fractured, by the physician who was called out to see him and he adhered to this opinion On the second day Mr W was brought to Odessa and from there by train to Midland, a distance of about forty miles During the time which elapsed from his injury, he was unconscious, paralyzed on the entire right side, stertorous respiration, pulse slow and labored, with difficult respiration at times and spasmodic action of the muscles of the same side as the injury, viz left Pupils dilated at first were afterward contracted Functions of bladder and bowels arrested, except a stillicidium or dribbling from the bladder

Diagnosis or Summary—Concussion with compression of brain as shown by all the leading symptoms Shock had been marked from the first, yet a sufficient reaction was secured to move him as before mentioned, as no operative procedure *could be instituted on the ranch* On Feb 19, 1893, I was called into consultation with Drs E and C , just after night as he reached Midland, at nearly dark The decision was reached that in an operation to determine whether there was fracture, a depressed fracture, it was necessary to elevate the bone, and relieve the pressure as it was a case of compression, though no fracture could be found It was also determined by the consultation to operate for two reasons 1, to determine as to the existence of a depressed fracture, 2, if this did not exist to trephine for the purpose of removal of a coagulum of blood, as it was *assumed* this also might exist from the nature of the injury, and as well from all the symptoms

On the following morning February 20, we saw the case and proceeded to make an exploratory operation as to fracture, dissected up the scalp for the purpose and clearly demonstrated that no fracture existed Then we at once proceeded to trephine at the point of contusion to find the cause of compression We removed a small circle of bone, including both tables and upon its elevation the blood began to well up into the opening, very much as water wells up into a well when you reach it The blood had not coagulated as it was occasioned by the rupture of divisions of the middle cerebral artery or parietal ascending branch The dura-mater was carefully protected while using the trephine, hence the blood was from the artery, the middle "ascending parietal artery " There was a large amount of blood which was taken up by small sponges as it filled the opening When this had been removed there seemed no clot in sight or on touch The dura mater was intact so that we proceeded to close and dress the wound antiseptically One suture was placed by a silver wire at the apex of the flaps and the wound had an antiseptic solution of peroxid of hydrogen and bichlorid of mercury in water, 1 to 2000 with light compress and bandage The wound healed readily without suppuration, and the symptoms of compression slowly passed away The patient after careful nursing, has recovered so he is working and transacting business, and was able to ride and walk in a few weeks after the operation Since his recovery he went to Buffalo, New York, to the Surgical Institute to consult (as he believed) abler counsel than he could find on the plains He came as he went, being informed that so far as surgery was concerned all had been done that could be done I had an opportunity to determine his condition as he rode out in a buggy as soon as able, and one man who frequently took him out said to me "He knows a fat steer and its value, and whether he owns it as quickly as he ever did, as I tested his capacity in that direction "

Some questions now arise as to the diagnosis, and in explanation of some if not all the principal facts in this case, it should be remarked here that we have had this year three cases of injury in the head, two of them recovering without any operative procedure, being only concussion of the brain All of these cases were produced by falls from horses, two occurring in the night and the one here recorded in the day time

The physiologic and pathologic fact existed of hemiplegia from the injury This fact indicates, that compression of the fibers or cells of the left parietal convolution as they pass down into the medulla are transferred to the opposite side and (*vice versa*) when the injury is upon the other side This was the principal fact which guided in this operation and which coincided with the second fact that the ("*pt de-appui*") or site of injury was on the left, hence other things being equal we should find the compression under the injury

Again, when we come to make up a diagnosis as to the clonic convulsive action of the same side of the injury, "the hemiplegic type of paralysis upon the side opposite to the cerebral lesion is due to disturbance of the motor ganglia, corpus striatum and lenticular nucleus, or it may be due to localized lesions of the cerebral lobes involving the peduncles and pons varolii "

Again, when hemiplegia occurs upon the same side as the cerebral lesion, a center is found in the motor ganglia of the opposite side with alteration in the lobes of this side, and it may be with edema or pressure from blood in the parenchyma of the structure of the opposite side We had a partial hemiplegia on the same side of the injury, but it was not persistent or permanent This was accounted for from the fact that the concussion by a *contra coup* may have produced small foci of blood deposit and induced the condition of the side injured, or incomplete hemiplegia with startings or twitchings and spasmodic action of the muscles of the arm and leg of the injured side

I have said the patient was trephined at Midland, and has slowly recovered, regaining such measure of power, intellectually and physically, as to walk about town with a cane yet with irregular, somewhat spasmodic action of the muscles of the limbs below, showing that he has not yet fully recovered the motor control of certain sets of muscles I believe he will continue to improve in this direction until a fair use of the muscles may be regained

Later, Jan 1, 1895, he is still improving, and now superintending and building a large four-story hotel

Surgical appreciation of methods and operations in traumatic and intra cranial lesions without fracture We have already come to a conclusion as to operative methods in cases of fracture, especially with depression of tables and clots of blood which may form in such cases, as in elevation of depressed bone and removal of loose or detached fragments That is, relieve (*brain pressure*) This leads us to another step What shall be done with cases of intra cranial lesions (traumatic) in which no fracture exists, as was clearly demonstrated in this case? Evidences of compression were clear, yet no fracture existed What could cause compression? Two conditions clearly, effused blood which may be found beneath the injury of the surface, and points of effusion, (ecchymosis punctatæ diffusa) and, finally, fracture by *contra coup* might arise where lesion or force is sufficient While cerebral localization may not and most probably will not always indicate the spot at which the cranium may be trephined, nevertheless in such a case as I have here described the demand is none the less as imperative as in cases of depressed fracture, as compression by extravasation of blood exists in both cases and in the first class of cases, bone is also depressed What are the facts in cases where post-mortem examinations have been made?

1 Death occurs in all ages and conditions from such head injuries, without fracture of the skull, and the facts thus shown prove that a large per cent of cases dying from brain fever and meningitis, especially in children, are the result of inflammatory action about a clot, producing abscess or softening due to some degeneration of injured cerebral tissue Hence we may deduce a rule of action, that because these cases are not found accompanied by fracture there is certainly no good reason why they should not receive surgical attention, as they are amenable to treatment, as this case shows Reports of cases, as I have gathered them up, show that the most grave cerebral lesions, manifested by very grave and serious symptoms, are produced without the slightest solution of continuity in the cranial structure and sometimes with no laceration or contusion of the scalp Concussion of the brain, as a whole, may eventuate in a slow process of inflammation, softening or abscess and death some time after the injury and when to all appearance the patient had seemingly recovered I have a case now under observation who received a severe concussion, remaining unconscious for several days, but finally slowly recovering save a little unsteadiness of gait and excitability of manner He was at first paralyzed in some of the muscles of the right side No mark or contusion on the head or any part of the body

The symptoms of pressure are induced by the effusion of the blood between the dura mater and skull as in this case, and which was fluid and not a clot, and the pressure symptoms were of a most severe and profound nature, hemiplegia of one side and partial of the other side, stertor, coma, depression and partial arrest of most of the vital functions, inability to swallow and many others, making up an entire aggregate of symptoms which threatened the life of the person

Again, a rupture of a larger or smaller trunk or branch of the middle, meningeal or cerebral arteries would produce sudden and great compression and possible death, and yet there has been no fracture or injury external, but as in this case profound disturbance of all the nervous and vascular areas What shall be done with such cases? Formerly they were bled, purged, blistered and tortured by an experimental medication till the patient was dead, or, with a vital force which would not succumb to the injury, aided by the bombardment of remedies got well in spite of disease and the doctors The evidence of compression of cortical centers may be determined with some degree of certainty by a comparison of symptoms contrasted as here stated I quote from the "Encylopedic Index of Surgery "

CONCUSSION	COMPRESSION
1 Insensibility more or less complete	1 Total insensibility
2. Respiration feeble	2 Respiration stertorous, slow, puffy
3 Pulse weak, irregular and frequent.	3 Pulse slow full, labored
4 Special senses dull	
5 Pupils variable and sensitive to light	5 Pupils widely dilated or one dilated and the other contracted
6 Nausea as recovery goes on	6 Stomach insensitive
7 Bowels relaxed sphincters not paralyzed	7 Sphincters paralyzed and bowels torpid
8 Bladder can expel the contents	8 Bladder paralyzed
9 Comes on instantly but passes off slowly	9 Does not appear at first but grows worse

The two conditions usually coexist, but the compression is found to exist and hence concussion may pass into compression as the latter term means pressure, and paralysis is usually taken as a distinguishing mark—a diagnostic sign of compression The cause of compression is here in such cases with no fracture a hemorrhage, and we should know where it is most likely to occur and the fact of compression make us cast about to determine the location of hemorrhage If it is an injury done to the medulla, cerebral artery or its branches we can determine readily enough from the nature of the injury, as blood may be deposited between the cranium and dura mater, or if the latter is broken or injured, or if not so, sooner or later we have compression of the cortex and also we have pressure upon the ventricles and cerebro-spinal fluid and thus a general disturbance by pressure which must be relieved if possible These conditions imply extravasation of blood within the cranium, contusion or laceration and these conditions are found upon the surface of the dura mater In the cavity of the arachnoid, on the brain surface in the substance of the brain as by foci, or in the ventricles, especially the lateral and at the lenticular nucleus It may occur in the corpus striatum, thalamus opticus, and if in the cortical structure near the surface may, as the blood continues, force its way through the cerebral matter, uplift the pia mater or find its way into the cavity of the arachnoid The most common location of hemorrhage is the corpus striatum and thalamus opticus in apoplexy, or from disease of vessels, and rarely in the white structure, viz , corpus callosum Large amounts of blood will occasion tumefaction and softening of the cerebral mass and flattening of the convolutions of the hemisphere which is the seat of lesion, before an examination may be made it is suspected Hence a rule of action now is to trephine promptly so that these graver lesions shall not have time to occur, as well as to remove the primary cause of trouble, the blood, whether it be a clot or fluid as pressure exists, and the patient has no power of continuance unless relief can be offered by a removal

I shall not attempt to follow the blood and tissue changes as it would not be competent, but only to indicate the procedure and the promptness with which it should be done The surgeon who fails to offer his patient the relief which such a procedure as trephining and removal of so much of cranial bone as may give relief to the pressure, and removal of the clot and fluid *débris* to the great relief of the existing pressure upon the brain, either has not comprehended what it is to take in the situation by a summary, or is too temporizing to be a safe surgeon Suffice it to say that this case was operated upon Feb 21, 1893, and is now and has been for a year or more walking around our streets in the transaction of his business, and while he does not walk as steadily as I do, yet he is far better than a dead man and gives promise by improvement that he may yet recover fully, due to the prompt use of the trephine or chisel in removal of blood pressure

The Technique of the Operation —The method to be pursued in microcephalus and in any condition of the brain requiring an operation is that it shall be done as quickly as possible to give sure and prompt relief to the compressed organ In cases of injury without fracture but with sufficient evidence to require an operation to be made, the surgeon should resort to one of several methods in exposing the bone and dealing with the scalp It may be a long U or rather a horse-shoe flap which has been preceded by a running stitch around the region of the flap beyond it, so as to control the bleeding from the scalp The horse-shoe flap perhaps is preferable, yet if by any preference of education or otherwise, he may resort to the crucial incision, and expose the bone The trephine may be used in one or more places, and then by cutting forceps cut away the interfering structure so as to gain room and relieve pressure This should be done, cutting as much or as little as the special case in hand may demand

It may be found in compression by blood or clot that the blood is found beneath the dura mater or external to it Then the incision of the dura mater may require to be done to reach the blood, or if there is evidence that there is blood or pus beneath the surface of the dura or pia mater or within the arachnoid spaces, the pressure should be relieved It may be difficult to determine some cases, yet ordinarily the diagnosis can be made and the operation should follow In fact, I hold that it is imperatively demanded of the surgeon in the face of unconsciousness or coma, with paralysis of one or both sides of the body, a slow and labored pulse and more or less difficulty of respiration, relaxation of the sphincters of the body, etc , to operate, and expect beside to benefit and probably save his patient The technique should be great cleanliness and antiseptic precautions with as much protection to all the delicate structures as may be possible Antiseptic gauze, iodoform, boracic acid solution (1 to 25 to 50) bichlorid mercury solution (1 to 3000 to 5000) or more, light bandage and compress after parts are externally adjusted The patient may not be able to take anything until consciousness returns, then light unstimulating diet, quiet and rest in a room well ventilated at temperature of 70 degrees

Conditions —As a summary of propositions in such cases

1 Cases of coma by compression, as distinguished from coma by irritation, which may be reflex or direct We must decide a case, as one of compression, by some intercranial cause before an operation is surgically admissible

2 That coma from reflex conditions and affecting vssels, and producing coma by irritation, or coma by contraction of vessels, and as a result vascular anemia, must be distinguished from the former

3 There shall be no fracture in the cases herein considered

4 We may have concussion and final compression of brain from rupture of vessels, accumulation of blood and pressure symptoms

5 Given such conditions, what surgical procedure is required if any (except in second proposition), bu found in first, second, third and fourth propositions

Answer to these propositions Operation—by necessity—except in proposition 2

THE SURGICAL TREATMENT OF INJURIES OF THE HEAD

BY CHARLES B PARKER, M D, M R C S, Eng

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The treatment of head injuries is a subject of general interest Such injuries occur in the practice o every medical man With the exception of suc general remedies as rest, ice, cathartics and sedative their treatment is necessarily surgical, and whe successfully carried out furnish a good test of th mastery of the technique of aseptic and antisepti methods

No injury of the head can be considered trivia for the simplest one may lead to fatal consequence The cause of this results anatomically from the well known close structural connection between the coverings and contents of the brain, and pathologically in the fact of direct or embolic germ infection Anatomically we have a rather thin skin connected t the aponeurosis of the occipito-frontalis muscle by very dense cellular structure, the fibers of whic have something of a ligamentous strength and i close a peculiarly vascular adipose tissue with whic the vessel's walls are intimately connected Th bone is not solid—an outer tough and an inner bri tle table, and between, the vascular diploe, beneat these the dura mater You know how intimately th dura is attached to the inner surface of the calvarium if you have ever attempted to remove it post-mortem The dura mater is more dense than pericranium (periosteum, it is a fibro-serous membrane You kno ow delicate such membranes are, how easily injured d how easily inflamed By this intimate structu l and continuous vascular arrangement, the force of blow directed at or nearly at right angles to a given rface of the head may be transmitted directly to is serous membrane, producing *hemorrhage*, with bsequent pressure and inflammatory *symptoms* here is at least one anatomic provision to offset this, rovided in the mobility of the scalp upon the peri-*ranium*, by which a force impinging upon the head t a tangent becomes a glancing blow and its full orce is not transmitted to the brain

Pathologically the rich vascular and lymphatic irculation supplied through the scalp, pericranium, iploe and dura offers a direct and complete high-ay for the entrance of infecting germs When no ound can be made out we must regard the appear-nce of suppuration following head injuries as due o embolic infection

We are, perhaps, all ready to acknowledge (*from* xperience) that true acute suppurative inflammation nd abscess *formation* is always the result of the ction of germs, and that such inflammation does fol-ow external injury to the skull, and yet at the same ime we may be unable to fully appreciate the minute echanism of its production and utterly unable to emonstrate the path pursued by the morbific agents, ven when the inflamed territory or collection of pus s but an inch below and directly beneath the external car All this serves to show that it is often difficult nd even impossible to predict the extent of the damage nd the subsequent danger from the local *manifesta-ions* of the injury The symptoms alone are not ufficient The former closely drawn differential signs between concussion and *compression*, are found un-rustworthy, and we have learned *that* the question of infection or non-infection is a much more important one But as a fracture opens up a possibly direct hannel of infection, and at the same time may exert a disastrous pressure on the brain, its diagnosis becomes of prime importance In certain extensive fractures with depression the diagnosis is easy But in other cases again most difficult

1 In cases without external wound It was, I believe, the shrewd Irish surgeon, Abraham Colles, who said a fracture with a depression *always carries the scalp with it*, and that this furnishes the basis for a differential diagnosis between mere *contusion* of the scalp and fracture of the skull This is the way he states it "Run your finger *along* the scalp towards the tumor, and before it *gets to its soft* yielding center, your finger will have to raise over a ridge around its margin and *then it* will suddenly sink, which will not occur if it is really a depression in the bone

If the bone is really depressed, you will find that the scalp is depressed along with it and there will be no tumor at all, and on running your finger over the place where you feel the depression in the scalp your finger will sink *gradually* into the depression" This observation will serve most useful purpose especially on the frontal and parietal bones, but in depressed fractures, otherwise located, cannot always be made out Where any doubt exists in such a case, I believe it is proper for the surgeon to make an incision, observing all aseptic precautions, and thus determine beyond the shadow of a doubt the question of fracture or no fracture I have never in but one case made this incision under such circumstances and found no fracture, and in that case the only effect of the incision was to hasten the recovery by evacuating the bloody serous effusion, thus relieving the tension and promoting the healing

2 In injury of the head, with wound, we also find great difficulty occasionally in determining absolutely *the presence or absence of* fracture No one *now uses the probe in such cases, as* it is next to useless and *may* be dangerous If any exploration through the wound is desirable after its thorough disinfection, the surgically clean finger can be used But even then the fracture may be so placed that it can not be detected, as the following case in brief illustrates

Tommie K aged 11, was admitted to the Lakeside Hospital, having been struck on the back of the head by a passing freight train There was a small punctured and lacerated wound just below *and in* a line with the inion This was cleansed and carefully examined by the little finger but no *fracture or even bare bone could be reached Patient conscious, pupils dilated, pulse* 40 respiration 12 Evidently there was some pressure or serious disturbance at base of the brain Patient was anesthetized and a sharply curved incision carried out on either side from point of punctured wound for one and three quarter inches *At the very base of this flap* we came upon a V shaped depressed fracture, base looking up and point buried *in the membranes of the base of the brain The moment* the point was elevated the pulse jumped to 94 and the *respiration to 26 In this case* no suspicion of the fracture could be gained from any examination of the wound itself

There is another reason why enlarging the wound by incision is useful, and that is the thorough cleansing of the wound Dirt, hair and other impurities are often carried by the force of the blow beyond the touch or view I make it an almost universal rule to enlarge the incision, especially in the smaller and punctured wounds of the scalp, and am nearly always rewarded by finding some dirt which could not otherwise be reached, and occasionally a fracture which had not been suspected This little procedure rarely requires an anesthetic, as the parts are already bruised and numbed

In compound depressed fractures of the skull, proceeding as above outlined, I am in the habit of using *the chisel* rather than the trephine to effect the elevation of the depressed bone With the chisel *it* is often only necessary to remove a narrow overhanging shelf of bone from the outer table, or to cut through the serrated edge where the depressed bone bends away from the uninjured portion of the skull The objection that the blows of the hammer add to the already existing concussion does not hold good, for with a properly constructed chisel with a sharply concave or sharp V shaped cutting edge and a thick handle, such as is found in a shoemaker's awl, the operation may be *made* entirely by the hand The chisel saves so much bone, may be operated so much more quickly, and it is next to impossible, unless grossly careless, to injure the dura mater I have spoken of saving the bone fragments The following case, in brief, will illustrate my practice

A little fellow, 5 years of age while playing, fell from a box car and struck on the iron drawbar *of* a switch When he reached the hospital considerable brain matter was found matted in his hair The whole right side of *his* head was smashed and flattened, and a fracture extending into the frontal bone in front to the occipital bone behind He was conscious and promised to be a good boy if I would let him sit up and look out on the lake He was anesthetized, a large flap raised and the extensive depression exposed. There was a large central oval piece of bone its greatest diameter, perhaps, a little less than three inches, its lesser a little more than two inches and surrounded by a number of small, irregular depressed pieces By means of a chisel these smaller fragments were loosened and removed The large central fragment immediately came into position It was perfectly loose and bare of both pericranium and dura, and a severe hemorrhage from the middle meningeal and some of the large branches of the middle cerebral occurred The fragment of bone was raised and a long strip of iodoform gauze packed over the bleeding surface, the end of the gauze being left out at the lower margin of incision for drainage, and the piece of bone returned to its place Gauze drainage removed at end of thirty-six hours Wound was re dressed on fifth day and again on the tenth At first dressing the fragment of bone showed very white through the bruised wound, but at second dressing it was completely covered by granulations, and recovery took place with some paralysis of motion in the left side

This is not the only experience I have had in leaving the larger fragments of a depressed fracture in place, and thus far have had no occasion in depressed fractures to insert a sheet of sterilized gold foil or platinum plates to prevent cerebral hernia I can readily see that it might be of advantage after trephining, especially for epilepsy, to insert some non-irritating substance in the buttonhole to prevent any union between the dura and pericranium But in nearly every case in which some such method has been attempted, so far as I can learn, though for the time being successful, sooner or later suppuration has occurred with sinus formation which necessitated the removal of the foreign substance

As a preventive against cerebral hernia, I believe nothing to be of such value as an aseptic wound, and when infectious suppuration has taken place nothing will certainly avert this most distressing and most fatal complication of head injuries

We may sum up our conclusions as follows

1 In any case of doubt as to the character of a head injury, to explore by incision if necessary

2 In the case of wounds, especially the smaller and punctured, to enlarge them for exploration and cleansing

3 In all cases of fracture, depressed or fissured, to operate, elevating the depression and exploring the fissure for a depression of the inner table, which so often does occur

4 To leave principal fragments of bone after elevation, if surgically clean, even if entirely detached from the dura mater and pericranium, thus averting cerebral hernia, vertigo and other cerebral disturbances

5 That all these operative measures should be conducted under the most rigid aseptic and antiseptic measures

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THE SANITARY CARE OF SMALLPOX AT COOK COUNTY HOSPITAL DURING THE LATE EPIDEMIC

Read before the Public Health Section of the Chicago Civic Federation

BY RICHARD BARTLETT OLESON, M D

CHICAGO

Theoretically, smallpox is not treated at the County Hospital But during the epidemic which existed last winter it became necessary, as a matter of humanity, to provide for the 400 victims of the disease who sought medical aid there From a sanitary point of view, these were easily separated into two classes, those who only required a place of shelter until they could be sent to the smallpox hospital, and those who were too sick to be moved, needing nursing and medical care

Early in the epidemic it became very evident that the facilities at the disposal of the City Board of Health for handling smallpox patients were, to pu it mildly, extremely inadequate As soon as w began to receive patients in any great number we sav that it would be impossible for us to depend on th chance of getting a smallpox ambulance to take then to the special hospital, and so, through the courtes of the Warden and the Hospital Committee of th County Board, one of the County Hospital ambu lances was diverted from its legitimate work and se to conveying smallpox patients from the Count Hospital to the pest house As soon as we go enough patients we made up a load and sent then on So the ambulance trips were irregular On patient would simply step into the wagon at once another might be kept for forty-eight hours Henc you will see that the hygienic care of the differen patients varied greatly

The way in which we handled an ordinary uncom plicated case that we intended to keep for some tim was as follows All persons seeking admission t the hospital must pass the doorkeepers who soon be came quite expert in detaining suspicious cases A such times the examining physician was at onc called, and if he pronounced the case to be variol the man did not enter the hospital building prope but was taken by an orderly around to the entranc of the contagious disease ward, which can only b reached from the outside The ward itself is on th fourth floor of the new pavilion and is entirely iso lated from the rest of the hospital In this war which is made up of detached rooms, a large apar ment with its own special closets and toilet room was set apart for the reception of these cases, an here a male nurse dwelt constantly

Upon admission, patients were given an ordinar scrub bath with soap and water and put to bed, upo a new clean mattress with new bedding, unless the were merely to wait for the ambulance and it w reasonably certain that this would depart soon I this case, nothing whatever was done to them Th clothes of the bed patients were placed in a corn of the room until they could be fumigated If became possible to send a patient to the pest hous before fumigation began, he went in his own clothes otherwise a new suit of hospital clothes was give him Then he was put into the ambulance, with certificate from the house physician to the effect th he was a proper case for the smallpox hospital The if he had occupied a bed, the bedding was taken by special porter out into the large open lot behind t contagious disease ward, and there burned, and considered our connection with that particular ca to be ended

Owing to the fact, as at first stated, that the hosp tal did not intend to care for variolous patients, the was no modern fumigating furnace We improvis a substitute by placing the clothes in a small windo less closet containing a steam coil The end plug that coil was taken out, and an iron kettle of one g lon capacity, placed on bricks to elevate it from t floor, was filled with brimstone and alcohol, and t alcohol fired Then we shut the door, pasted up the chinks and crannies, turned on the steam fro outside and left it for two days Then we turned the steam and as soon as we thought the room w cool enough we opened it, raked out the clothes, a put them in a clean closet to await orders

When a patient who had passed through the disea in the ward completely recovered (and we consider this point to have been reached when none of the pustular eschars could be found on him), he was given a thorough tub bath in a small bath room just oft the ward, ordinary soap and water being used The tub was then cleaned and the patient bathed in a 1 to 1000 solution of bichlorid, after which a third bath of clear water without soap was given Then the sites of the eruption were sponged with alcohol (care being taken to protect the eyes) and he was wrapped in a clean old sheet, in which he walked out of the ward to another room Here the sheet was discarded, his fumigated clothes given him and he was allowed to go free Then all his bedding, with the last clean sheet just mentioned, was burned, and his bed fitted up fresh for the next case

Many of the seriously ill died in the ward When this occurred their bodies were wrapped in a winding sheet soaked in 5 per cent carbolic solution (the body having first been bathed in the same solution), and a second sheet saturated with 1 to 500 bichlorid placed outside the first Then the body was placed in a pine coffin, this in a zinc-lined box, the top close fitting, was screwed down tight and the body sent to the cemetery All his belongings not of value were then burned Coins, chains, etc , were boiled

No attending physician visited the smallpox ward The house physician (who, by a somewhat unfortunate arrangement, had at the same time to attend the measles, diphtheria, scarlet fever and erysipelas wards) on entering the ward assumed a jacket and apron over a special suit of clothes On leaving, he doffed the jacket and apron, removed his outer garments, and then sterilized his hands before donning the clothes he wore in the other wards

In conclusion, the writer wishes to take this opportunity of stating that the then Warden of the County Hospital, Mr W T Monroe, deserves the sincere thanks of every citizen of Cook County for the prompt and efficient aid he lent to every effort made for the stamping out of the pest The house staff put redoubled zeal into their work with the knowledge that the Warden could be depended upon to back them in all their undertakings

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D , LL D

NEW ORLEANS LA

(Continued from page 204)

Chapter IV

CASES OF YELLOW FEVER, OBSERVED 1878, BY DR. TAYLOR, M D OF NEW ORLEANS

Date	Pulse		Resp		Temp Cent	
1878	M	E	M	E	M	E
Aug 17	112	124				
18	118	104				40 2°
" 19	104	104			39 2°	38 6°
" 20	106	116			36 6°	39 °
" 21	108	100			39 2°	40 2°
" 22	108	120			39 °	39 8°
" 23	108	128			39 8°	40 2°
24	120	136			39 4°	40 4°
25	132	128				
" 26	124	128				
" 27	120	116				
" 28	110	112				
" 29	96	88				
" 30	84	76				
31	66	56				
Sept 1	48	40				

HISTORY OF CASE REMARKS

Jas Crawford, aged 8 years, taken ill Aug 16 Saw him for first time on evening of Aug 16 Crawford children had arrived from Ireland only three months previously In this case as soon as remission and exacerbation began to be distinctly marked (say from about the seventh day), I began using quinia in gr xx doses in 24 hours The remission and exacerbation evidently were not affected by the drug for several days, and then variations continued for some time after Aug 23, when, owing to an accident, I was compelled to suspend the use of the thermometer I gave quinia from the morning of the twelfth day The condition of the stomach remained good nearly all the time I gave beef tea and milk several times each day In this, although the symptoms and appearance of the patient pointed strongly to yellow fever, and although the urine contained albumen, still the indications afforded by the pulse and thermometer caused hesitation Quinia, however, although freely used did not bring about any solution to my doubts, and I finally suspended its use The fever really seemed to decrease after the twelfth day and the minimum of pulsations (40) was reached only at the close of the eighteenth day For several days during the height of the disease I was considerably annoyed by a free discharge of blood from the gums, which was at last checked by the internal use of the perchlorid of iron Convalescence was tedious owing to the great debility of the child, who suffered from several carbuncles attended by sloughing

Date	Pulse		Resp		Temp	
1873	M	E	M	E	M	E
Sept 20	120	112				
" 21	108	92				101 6°
Night		92				103 6°
" 22	96	112				
Night		120				

REMARKS

Father Schneider taken ill September 20, about 2 P M died on September 23 at 9 A M Black vomit Had spent two years in St. Thomas, came to New Orleans March, 1870 Immediately after his death the bed and bedding and his clothes were burnt the room and house disinfected a few hours later by the board of health

Joseph Fitzpatrick aged 6 years taken sick September 21 Had spent more than one summer in the city Recovered September 21, pulse morning 136 evening 118 Sept 22, morning, 128 evening, 120 Sept 23, morning, 108, evening, 104

Date	Pulse		Resp		Temp Cent		Remarks
1870	M	E	M	E	M	E	
Sept 8	104	96	20	24	40 °	40 8°	Luce Maxino taken with fever September 6 1870 Paid first visit on September 7, 1870 No trace of albumen in urine which was freely excreted during the whole attack, recovered
9	88	88	20	20	40 6°	41 °	
" 10	80	76	32	24	40 2°	40 2°	
11	64	60	24	20	39 4°	39 6°	
" 12	60	64	20	20	38 6°	38 8°	
" 13	60	56	20	20	38 °	37 8°	
" 14	52	52	20	20	37 6°	37 6°	
" 15	52	48	20	20	37 6°	37 6°	
" 16	44	56	20	20	37 8°	38 °	
" 17	66	64	20	24	38 °	38 °	
" 18	60	64	20	20	37 8°	37 6°	
" 19	56	48	20	24	37 8°	38 °	
" 20	64	68	21	20	38 °	38 2°	

Date	Pulse		Resp		Temp Cent		Remarks
1870	M	E	M	E	M	E	
Sep 28	116	116			C	C	M T Bugman, age 22 years, recently arrived from Kentucky laborer taken ill September 27 1870, first visit made September 28 Jaundice and suspicious character of vomit noted on 29th great quantity of black vomit on September 30 and October 1 Died in convulsions at 3 P.M October 1
" 29	96	100			40 4°	41 2°	
" 30	92	92			40 4°	41 2°	
Oct 1	100				38 8°	40 °	

Date	Pulse		Resp		Temp Cent		Remarks
1870	M	E	M	E	M	E	
Sep 29	72	72			38 6°	38 6°	No diminution in quantity of urine, no albumen perceptible recovered
" 30	68	68			38 8°	40 °	
" 31	68	68			38 2°	38 4°	
Oct 1	72	68			38 4°	38 6°	
" 2	60	64			37 6°	37 8°	
" 3	54	54			37 4°	38 °	
" 4	50	54			37 6°	37 8°	
" 5	50	54			37 °	37 4°	
" 6	50				37 4°	37 4°	
" 7	60						

Chapter V

POST-MORTEM TEMPERATURE IN YELLOW FEVER

The medical profession is indebted to Dr Bennet Dowler, of New Orleans, for the first, and up to the present time the most extensive, observations illustrating the temperature of various portions of the body after death from yellow fever

The results of the researches of Dr Dowler were originally transmitted to the *Western Journal of Medicine and Surgery* during the winter of 1843-44, but were returned to the author unpublished The original data were published sixteen years later by Dr Dowler in the *New Orleans Medical and Surgical Journal*, March, 1860, Vol xvii, No 2, pp 199–220, and from this paper I have consolidated the following tables, which will illustrate the state of our knowledge with reference to the post-mortem temperature in yellow fever

Temperature of the primary period of those who died of yellow fever

Hours Sick	Hand	Axilla	Observations
12	102°	105°	
12	103°	107°	
12½	105°	105°	Died in seven days
24	104°	107°	Died in four days
28	107°	107°	
15		102°	
37	97°	102°	
26	104°	109°	
20	107°	109°	
34	103°	104°	
42	97°	102°	
24	99°	100°	Died in two days
24 6	102 5	104 9	

Temperature of middle period of those who died of yellow fever

Hours Sick	Hand	Axilla	Observations
1	99 5°	104°	
5	101°	104°	
5	97°	102°	
3½	100°	105°	
3½	100°	105°	Died in three days
2	100°	102°	Died in four days
4	104°	107°	Died in three days
3	100°	104°	Died in three days
4	102°	105°	
5	91°	102°	
6	100°	105°	
6	102°	105°	A relapse
7	98°	100°	Died in four days
8	93°	99°	Died in three days
5	99°	104°	
8	102°	102°	
12	106½°	105°	
1	99°	100°	
6	100°	104°	Died in two days
7	91°	102°	Died in three days
7	101°	104°	
8	102°	102°	
12	105°	106½°	
14	101½°	108°	Died in three days
6	99°		Died in three days
6 4	99 4	103 39	

Temperature in the primary period of yellow fever in persons who recovered

Age	Hours Sick	Hand	Axilla	Observations
29	3½	102°	106°	V s ad del cured in six days
28	20	102	105	V s ad del well in six days
24	8	101	103	V s ad del well in seven days
30	9	100	106½	Cured in thirty eight days
	5	102	104	Intermittent type well in eight days
30	12	105	105	V s ad del , cured in six days
35	13	103	104	Cured in seven days
24	14	102	104	Cured in ten days
27	13½	102	104	Cured in twenty days
21	16	107	107	Cured in seven days
28	19	102	104	Cured in three days
29	22	102	104	V s ad del well in four days
25	28	102	106	Cured in nine days
28	26½	102	104	V s ad del cured in fourteen days
41	48	99	102	
30	48	98	104	V s ad del cured in one day
22	48	104	106	
31	48		102	Ninth day convalescent
28	48	97	103	Ninth day cured
26	48	105		Cured in ten days
29	48	97	102	Cured in six days
23	60		103	Cured in seven days
34	24	99	102	
31	14	95	102	Cured in twenty days
25 5	26 8	101 2°	104 1°	

Temperature in the fatal stage of yellow fever, with some account of the respiratory action

Hours before Death	Hand	Axilla	Respiration
10	101°	102°	Respiration quick and uneasy
24	95	104	Respiration quick
8		101	Coma, seven respirations per minute
1	91	100	Respiration tired, heaving
1½	94	100	Respiration noisy, quick, laborious
6	89	100	Respiration noisy, slow
2¼	70	95	
9	94	100	Respiration imperfect, quick, irregular
21¼	95	100	Respiration noisy
21½	104	106	Respiration irregular
11½	81	90	
11	88	100	Respiration quick wheezing, coma
10	84	95	Respiration easy
7½	86	97	Respiration laborious, irregular
12	95	102	Stertor coma
11	89	95	Respiration quick and irregular
12		99	Respiration noisy, quick and laborious
6	83		Respiration imperfect, small, irregular, quiet
7	81	90	Respiration extremely laborious, gasping
26½	104	105	Coma, stertor
24		100	Respiration hurried, coma
21½	97	104	Coma, stertor
23	89	98	Respiration quick
1	84	95	Respiration slow, loud heaving
67½	101½	103	Respiration imperfect
5¼	100	101	Respiration quick and irregular
12	102	102	Respiration quick.
40		97	Respiration quick.
24	89	100	Respiration loud laborious, rattling, coma.
1		102	Respiration loud, puffing
2		100	Respiration loud, quick coma.
48	88½	97½	Respiration quiet, puerile
2½	89	99	Respiration stertorous, coma
24	93	97	Respiration hurried, unequal
28	102	104	Respiration easy
72	88	101	Respiration quick, very easy
5		95	Respiration rapid, small
9		98	Respiration hurried, suffocative
4½	89	97	Respiration easy
24	91	101	Respiration imperfect nineteen per minute
24	88½	102	Respiration wheezing, puffing rattling cough.
2	93	97	Respiration irregular, laborious, quick.
24	66	95	Respiration quick puerile
12	93	101	Respiration quick, puerile, loud
12		100	Respiration hurried
30	104	106½	Respiration hurried
4	103	104	
6		96	Respiration slow, imperfect
12	100	101	Respiration fifty seven, coma
24	100	103	Respiration stertorous comatose
5	89	100	Respiration noisy, slow
16 6	92 2	99 5	

Temperature of the middle period of yellow fever of those who recovered.

Age	Days Sick	Hand	Axilla	Observations
30	6	106°	108 2°	Third day convalescent
27	2	102	105	
30	1½	99	105	
	2½	102	102	
29	2	100	102	Cured in three days
34	4	102	104	Cured in ten days
	5		102	
21	2	97	103	Cured in nine days
26	6	97½	100	Cured in five days
24	14	100	104	
	16	106	106	
24	3	97	102	Cured in thirty days
29	5	102	100	Cured in twelve days
33	4	100	102	Cured in two days
28	4	100	104	Cured in fifteen days
19	16	104	104	Cured in five days
38	4	104	104	Cured in nine days
38	12	95	102	Cured in fifty days
27	4	99	104	Cured in four days
22	9	103	104	Cured in twenty eight days
34	5	99	100	Cured in six days
20	4	97	100	Cured in five days
32	7	100	103	Cured in ten days
24	5	99	100	Cured in six days
32	6	100	102	Cured in six days
22	3	100	103	
22	4	100	104	Cured in four days
20	4	100	107	Cured in four days
25	6	107	107	Cured in eight days
28	6	102	102	Cured in seven days
30	8	101	102	Cured in five days
18	7	102	101	
21	9	101	102	Cured in sixteen days
23		97	101	Cured in twelve days
27	4	104	108	Cured in seven days
35	12	91	103	
23	7	93	100	Cured in six days
18	11	102	102	Cured in four days
24	9	94	97	Cured in ten days
41	2	99	102	
26 9	5 9	100 1	103 1	

Temperature of the period of convalescence in yellow fever

Days Sick	Hand	Axilla.	Days Sick	Hand	Axilla
2	100°	99°	[illegible]		95
5	96	100	16	97	98
3	100	102	10	100	100
4	93	99	18	95	98
5	91	97	8		102
4½	90	98	7	97½	101
2½	88	97½	6	99	101
1½	97	100	1	98½	102
9		97		100	102
7	97½	83	2	98	100
9	94	100	5	95	99
6	95	99	6 5	96°	98 46°
8	96	99			
9	93	95			

t mortem series, showing the post mortem heat of regions Death caused by yellow fever

…tions began	Time observations lasted		Air	Axilla	Thigh	Rectum	Perineum	Pelvis and Abdomen	Liver	Epigastrium	Chest	Heart	Brain
M	H	M											
10	4	8	90[1]	109°	113°				112°	111°		109°	
5	2		89	107	107	105°		106°	106	105	106°	101	
30		33	88	101		112	102°			103			102°
15	1	5	79	102	102	104				101	100	100	
5		41	70	106	102					106			101
10	1		71	96	95					90	97½		93
50	1		82	103	102					101			100
	2		80	101	100	100			102	101			95
	1	9	82	103	104				103	104	97		90
10	1	51	80	106	105					106			101
10	2	20	84	106	107					109			
		51	85	106	105					109	107		
	2		80	102	103					101	103		
20	1	40	90	106	106½		101			106	105		
30		45	86	103	100					105			
		10	82	106		105							
	2		84	106	106					106	106		
33		33	90	108			106						
	1	41	91		103	102				104	101		
5	1	8	86	104	103	101				106	103		
15	1	46	88	104	106					109		106	
15	2		89	104	106	109				108	104	103	
30		20	82	104		101							
15	1	45	82	102	104	101		102	105	104	102	99	
20	3	20	83	105	109		104	107	104	109	101		
	1	30	80	105		104				105			
30	3	50	86	109		107	109	107	107	105	102	102	
30	1	4	83	107	108			106		109	102	102	
30	1	40	87	105		104	104	107					
1	4		90	103	102		102	104	101	104	105	105	
30	4		90	106½		111	109						
	3		89	103		103	104						
15	4	45	86	107	109		104	106½	109	108	106½	106½	
15	1		82	102	100					102			
16	2		84	104	103	107				110			
10			85	107	107					107	104		
10		26	85	103	104						102		
5		17	75	107	107								
30		20	87	100				100			103		
		35	84	100		98							
25		55	85	103		102	101						
5		12	90	106		106							
10		36	85	103	104					102		102	
58½	8	32	84 4	104 44	104 44	104 05	104 95	105 05	106 33	105 48	102 95	103 5	98 71

'ost mortem series showing the decline of post-mortem heat, the antagonism of the surrounding media or incipient regional refrigeration, the forerunner of putrefaction

Time dead when observations began		Duration of Experiment		Air	Epigastrium	Lungs	Heart	Liver	Rectum and Pelvis	Thigh	Axilla	Brain
H	Min	H	Min									
3	20		40	81°	104°	104°			104°			
4	50	1	10	86	105		102°	107°	102			
4			15	82	100	93				99°		
10			9	90	93					92		
3			10	84	106					103		
8			15	85		104				100		
5			28	66	93					88	88¼	86°
4	80		30	70	100	97				99		92
12			55	79	92	91	91		91	89		84
11			25	80	96		93			93		85
6			8	91	102					100		
8			20	86	104					100	100	
13			10	80	95					98		
6			20	80	103					100	100	
15			30	86	92	91				87		
10			20	80	91					86		
3		1		61	84	80	87	86		84		
6			27	86 29	97 5	94 28	93 25	96 5	99	94 26		

Post mortem series showing the coincidence of temperature between the dead body and the atmosphere at the period of incipient putrefaction

Hours Dead	Temp of Room	Epigast	Lungs	Brain	Axilla	Thigh
16	87°	89°	89°			89°
23	90	92	92			88
11	80	83	84	78°		91
19	86	89	89			86
13	88	85				93
27	86	86				82
20	91	91				91
16	71			71		88
10	90	93				92
15	90	93				88
15	86	92	91			87
19	88	91				88
18	88	90				88
22	90	90			86°	
12	70				91	
6	91					
21	84½	86¾				86¾
17¾	83			83		89
	91	83		81½	82½	79
17 04	84 3°	88 1°	89°	79 12	86 5	85 35°

Post mortem series showing the comparative temperature taken at variable periods after death in several regions of five different bodies amounting to forty maxima

Maxima of eight regions compared in five cadavers

Thigh	Epigas	Axilla	Chest	Heart	Brain	Rectum	Liver
113°	111°	109°	107°	109°	102°	111°	112°
109	110	109	106½	106	101	109	109
109	109	108	106	105	101	107	108
108	109	108	106	104	100	107	107
108	109	107	105	104	99	109	106
M 109 4	109 6°	108 2°	106 1°	105 6	100 6°	108°	108 4°

(*To be continued*)

NERVOUS DISEASE IN EARLY SYPHILIS

Read before the Chicago Academy of Medicine October, 1895

BY G FRANK LYDSTON, M D

Professor of the Surgical Diseases of the Genito Urinary Organs and Syphilology in Chicago College of Physicians and Surgeons Surgeon in charge of the Masonic Hospital of Chicago Fellow of the Chicago Academy of Medicine Lecturer on Criminal Anthropology in the Kent Law School Fellow of the American Academy of Social and Political Science etc

(*Continued from page 188*)

Acute complicating diseases are not usually credited with the power of aggravating syphilis, but the fact none the less remains that general or local impairment of nutrition is likely to determine syphilitic action The more prolonged and irritating the process, the better the prospect of an outcropping of the specific taint

There is no disease perhaps, which more actively predisposes to nervous disturbance in syphilis than la grippe I believe that I could, from my own experience, formulate quite a lengthy clinical paper on syphilo grippal neuroses In general, I know of no condition more troublesome than a combination of la grippe and syphilis

One of the important factors in nervous vulnerability in syphilis is defective elimination Not only do the syphilitic toxins give rise to serious results under such circumstances, but the patient shows intolerance of anti-syphilitic remedies The so-called idiosyncrasy which makes mercury and the iodids obnoxious to certain patients, often means defective elimination Iodid intolerance may signify a sluggish or damaged kidney The influence of trauma in the determination of syphilitic processes must be admitted, this applies to nervous as well as to other lesions

From this brief survey of the determining factors of syphilitic phenomena, it is evident that the question of vulnerability of tissues and organs, and especially of the nervous system is of great practical importance I have admitted for the sake of argument, that all syphilitics do not present early toxin neuroses I will now proceed to contradict this assertion Every syphilitic in my estimation, suffers from toxin neuroses, but as suggested in the early part of my paper the routine neuroses are not recognized as such

One of the early phenenoma of syphilis is the so-called syphilitic fever This condition consists of an *ensemble* of symptoms of which a high temperature is by no means the most prominent feature Headache, malaise, neuralgic and rheumatic symptoms occur, and in some cases prove quite troublesome These various phenomena and indeed, the fever itself, I believe to be due to the action of the toxins upon the sympathetic system, and upon peripheral and central nerve structure Perverted metabolism from the intoxication of the sympathetic may explain the fever quite satisfactorily It is to be noted in this connection that not all cases develop this fever When it does occur, I believe it to be due to nervous instability—so-called idiosyncrasy in this instance This idiosyncrasy is similar to that which produces untoward effects of drugs, the toxins of shell fish, over-ripe tomatoes, etc Carrying the argument a little farther, we have an explanation of the initial eruption of secondary syphilis—the roseola Unlike all other lesions of the skin and mucous membranes, this form does not present in its macules an accumulation of syphilized germinal cells, but a simple vascular change involving vaso-dilation, stagnation and disorganization of the red corpuscles with a liberation of their pigment

The lesion is non-destructive, and more or less transitory, leaving in its train a coppery or brownish red stain This roseola is most logically explained by an aberration of vasomotor impulse due to the action of the syphilitic toxins upon the sympathetic Analogical reasoning is not always satisfactory, but in this instance the analogy furnished by the untoward effects of drug and other toxin eruptions appeal to our sense of clinical discrimination most strongly Apropos of other toxin eruptions, I desire to call attention to the form that sometimes appears in diphtheria—not the scarlatinoid, in which a mistake in diagnosis or even a mixed infection are possible, but that later type which heralds approaching dissolution Here, we often have a very fair imitation of the syphilitic roseola

Another lesion of early syphilis which appeals to me as a neurosis—trophic if you please—is the alopecia I fully realize that I am treading on dangerous ground, the close association of alopecia with tangible cell deposit in other situations has led to the tacit acceptance of this lesion as an evidence of the action of the *materies morbi* of syphilis *in loco* Some authorities believe it to be due to local empoisonment of the hair follicle with resultant nutritive perversion Otis, following Baumler, and Besiadecki, thinks that alopecia syphilitica is due to pressure innutrition of the hair follicles produced by an accumulation of syphilized cell material I myself long taught this view A moment's reflection should convince one of its fallacy The following considerations are important in this connection

1 Lesions of the scalp of sufficient prominence to attract attention are rather exceptional in syphilitic alopecia, a few scattered papules and accumulations of epidermal cells or sebum being found in a certain proportion of cases

2 Scarring is rare and when it does occur, permanent baldness of the affected area results as a rule

3 Tertiary syphilis in which cell accumulation is most marked is rarely causative of characteristic alopecia

4 Severe alopecia, not only areate but generalized, may occur without any other lesion This could hardly occur if the alopecia were due to cell deposit, inasmuch as in the early secondary period when alopecia is most often found the tendency to cell deposit is quite generalized

Reasoning by analogy, we find much support for the neurotic theory of alopecia The effects of fright, fevers and head neuralgias on the color and nutrition of the hair are well known Leloir, Dumesnil and others have cited cases where traumatism of the sympathetic has produced alopecia Joseph's experiments are quite significant in this connection He divided the spinal ganglion of the second cervical nerve in cats and thereby produced baldness

Accepting as I do, the nervous character of the syphilitic roseola and alopecia, these lesions are to me very suggestive If they are due to disturbance of the sympathetic we have only to imagine similar vasomotor and tropho-neurotic changes in the central and peripheral nervous system, to get a tolerably clear idea of more serious neuroses in early syphilis.

To sum up the question of toxins in early syphilis, I believe that they bear a most important relation to the cephalalgias, neuralgias, bone pains, myalgias, paralyses, and rare cases of mental disturbance found in early syphilis, which affections for the most part are an evidence of the action of the toxins on the nervous system, and especially upon the sympathetic These disturbances are often transitory, independently of treatment but they leave behind them a vulnerability of nerve tissue which may determine much more serious trouble later on Precisely how the toxins act we do not know—we are as ignorant here as in the case of many other organic poisons That vascular changes bordering on inflammation of nerve structure and its envelopes occur in some cases is probable enough, but is difficult of proof The earlier the disturbance the less likely it is to be due to organic cell deposit

In concluding what I have to say regarding the relation of the toxins to syphilitic nerve and brain disease, I desire to call attention to one point involved in the views of our distinguished Fellow, Dr Bannister, to which I beg leave to take exception I believe firmly that he is correct in his position regarding the syphilo-toxic origin of some cases of general paresis, but I do not believe that the toxin remains latent in the system for a prolonged period He does not believe that the toxins prepare the way for paresis, but that they exist and are operative at the time the paresis begins With the cessation of bacterial evolution, I believe that the toxins are eliminated—I do not believe they are stored up for future morbid action Bacterial evolution probably ceases with the cessation of the active period long before general paresis develops Cerebral syphilo-toxemia possibly does pave the way for paresis, but it probably does so by profoundly perverting the bio chemism and possibly in a minor degree, the structure of the cerebral tissues This impression produces no very disastrous results in the early history of the case, but later on, as nutrition becomes relatively impaired by advancing age and directly impaired by intervening pathogenetic factors, serious trouble results It is a fact well known in pathology, that early damage to tissue may not reveal itself for many years—this aside from disease due to germ infection This is even true of some cases of malignant disease

In studying the nervous phenomena inferentially due to cell infiltration in early syphilis, it is to be understood that it is difficult to differentiate them from the toxin variety The later the development of the phenomena, the greater the probability of the existence of definite organic lesions In late secondary and tertiary lesions these may be well marked In a general way, the toxin neuroses have their point of departure during the first three or four months of syphilis, the later varieties being of neoplastic origin The younger and more active the germ the more virulent and abundant its toxins In the true tertiary period the syphilitic germ and its toxins are probably no longer a factor in syphilitic neuropathology, save as respects the tissue vulnerability and morbid cell impulse already described

The exceptions to the general rule regarding the dependence of the very early nerve disturbances upon toxins are chiefly cases in which hemiplegia or some severe form of paralysis develops, in hemiplegia especially, the inference that a localized cell accumulation exists is usually justifiable

Organic or functional nervous disturbance is produced by syphilitic new growth in numerous ways, viz

1 By invading the lymphatics surrounding nervous structure

2 By involving the tissues, chiefly the lymphatic vessels, surrounding the blood vessels supplying or draining the part

3 By invading the arterial walls

4 By infiltration of connective and other tissues about nervous structures

5 By involvement of the nerve or brain tissue proper

6 By involving nerve sheaths or the cerebro spinal meninges

These various conditions act by producing

1 Irritation

2 Pressure innutrition, and occasionally degeneration

3 Passive hyperemia and edema from venous obstruction

4 Localized anemia (ischemia) from arterial obstruction

5 Blocking up of the affected area by lymphatic obstruction

It is rare that extensive destruction of tissue from breaking down of the neoplasm occurs in the earlier nervous lesions It is to be remembered, however, that gumma at an early period may develop from the intrinsic malignancy of the disease

The predilection of syphilitic cell growth for lymphatic glands and capillaries is well known, most of the neoplasia of syphilis are essentially processes of lymphatic infiltration and obstruction This is not only true of the active but also of the sequelar or gummy period In the latter, however, the process is largely one of lymphatic obstruction and congestion, while in the former, essential infiltration of lymphatic structures exists The difference between the two may possibly be explained by the hypothesis that the gummata are chiefly due to old-time injury of lymphatic tissue by the essential infiltrations of this tissue incidental to the active period

Vascular involvement—direct or by the pressure of syphilitic cell growth—is probably the most important factor in the etiology of organic nervous disease in early syphilis, as already remarked, however, the more remote the period after the chancre, the more likely is the process to be due to arterial disease

The apparent predilection of the syphilitic process for arteries of medium size, and especially those of the brain is well understood, but has not been satisfactorily explained A brief consideration of a special anatomic point—which still further emphasizes the importance of lymphatic pathology in syphilis—makes this circumstance fairly intelligible

The peri-vascular lymph spaces are an integral element of the lymphatic system, and share in its special susceptibility to syphilitic involvement Pressure upon and inelasticity of small or medium sized arteries, quite seriously disturb nutrition of the supplied area, with consequent aberration of function in the latter This is a very important matter as regards the brain The perivascular spaces of the large trunks are involved it is true, but the resultant pressure and inelasticity are a trivial matter in comparison with the resisting power of the large arterial tubes and the relative quantity of fluid forced through them

Another vital point is this, the tunica adventitia of the vessels is probably a part of the lymphatic system, it certainly is extensively involved in early syphilis Hutchinson seems to believe that the tunica intima is primarily involved, the adventitia sometimes and the middle coat only secondarily, but despite so weighty an opinion, the author inclines to the view that the point of departure is the adventitia Apparent evidence to the contrary probably depends upon the fact that most of the cases studied have been late cases

Hutchinson says that syphilitic arteritis does not produce aneurysm This is true as regards the early stages, but the endarteritis of late syphilis is a most prolific cause of those miliary aneurysms which bear so important a relation to cerebral disease, especially of the apoplectic variety

With reference to Mr Hutchinson's opinions of vasculo cerebral syphilis, it is a peculiar fact that some of the cases which he records are directly opposed to his own views regarding the point of departure of the pathologic process He quotes a case reported by Sharkey in the transactions of the Pathological Society of London, of a man who died of vasculo-cerebral disease in the seventh month of syphilis, while still covered with a secondary eruption The disease was symmetrical, affecting both middle cerebrals "*The process had begun in the tunica adventitia and had spread inward*"[1] Both arteries were occluded, the right completely so, and the areas supplied by them were softened The patient had suffered from headache and was under treatment for syphilis when he had suddenly passed into a semicomatose condition, with convulsions of the extremities, in this state he remained until his death one week later Another case which he quotes, is from Dr Clifford Allbutt, of Leeds The age of this patient's syphilis is not given In the brain were found scattered masses of syphilitic neoplasm involving the smaller arteries, these varied from the size of a pea to a walnut and were somewhat indurated *Micro-*

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[1] Italics mine

scopic examination showed that the process began with cell exudation and proliferation in the perivascular canals, finally causing great perivascular thickening"[2]

The Fellows of the Academy will please note the support afforded by these cases to the views which I have expressed regarding the relation of the tunica adventitia and the perivascular lymph spaces to the initial arterial lesions of syphilis It would appear that Hutchinson has formed his conclusions mainly from cases of late syphilis in which the point of arterial departure is often lost in the extensive gummy changes and secondary degenerations of this period The earlier vascular changes which are really at the bottom of the difficulty have usually disappeared, the latter changes which replace them being given credit for the entire field of pathologic change In the presence of large diffused gummata, with or without degeneration of the inner tunic of the vessels, it is by no means surprising that the earlier changes are masked, underestimated or entirely overlooked, even though they have not completely disappeared, as I believe they are most likely to do Early perivascular exudate, especially, may produce most disastrous effects on vascular wall nutrition and yet be removed in due time Its presence in tertiary cerebral syphilis would be conclusive, its absence, however, argues little It is probable that the arterial changes of early syphilis are chiefly operative in the production of ischemia of the brain and nerve tissue, with resultant loss of function Vicarious hyperemia from obstruction of certain areas and compensatory pressure in others, supplied by sound vascular twigs from the same vessel, is a possible element Passive congestion and edema from venous involvement are additional possible factors Hutchinson has called attention to a peculiar form of periphlebitis due to syphilis, this may occur in the brain

It is not beyond the bounds of logic to assert that all of the conditions described may possibly co-exist and that intoxication by syphilitic toxins may be superadded

Hemorrhages, distinct tumors, embolism, thrombosis, vascular ulcerations—softening of the tunica intima—are not to be expected in this early stage Intra-cranial nodes, while possible, are certainly rare at this time Meningeal infiltrations probably occur, but as a rule do not appear to excite symptoms Such damage as may be done early in the disease manifests itself by symptoms at a relatively much later period

It is obvious from what has been said, that the changes mentioned as characteristic of syphilitic cell deposit, are much more likely to be localized than those due to a universally circulating toxin It is to be remembered, however, that the toxin may cause symptoms referable to a particular area of nervous distribution, by producing aberrations of vasomotor impulse through its action on the sympathetic Involvement of nerve and brain tissue has been mentioned as occurring in very early syphilis, but it must be very rare Such invasion as does occur must be slight, and acts merely by laying the foundation for later gummy disease It will be understood in this connection, that I do not deny the possibility of precocious gummata of the brain In such cases, however, there are abundant extra cranial evidences of malignancy In a general way it will be found that large circumscribed gummata are characteristic of the tertiary period, while those of the earlier period are not only small but disseminate The disseminated lesions of early involvement of the choroid, fairly illustrate what may be expected in the brain in early syphilis

(*To be continued*)

SOCIETY PROCEEDINGS

Associated Health Authorities of Pennsylvania

Second Annual Meeting held at Harrisburg, Jan 30, 1895

Major M Veale, First Vice-President, Health Officer of Philadelphia, presided

Gov D H Hastings, ex-officio President, was presented with a handsome gavel by Dr B Lee in behalf of the State Board of Health

Secretary Atkinson, in the absence of Dr C McIntire, read his paper on

THE SANITARY TREATMENT OF COMMUNICABLE DISEASES

A communicable disease is one able to be communicated from one person to another, either by direct contact or through food or drink The sanitary treatment is the means adapted to prevent this Our methods depend upon the hypothesis we adopt Thus cholera flourished in spite of our efforts, till we learned that it was a waterborne disease, then our efforts succeeded Many diseases are known to be associated with a pathogenic microbe, the method of conveyance differing with different diseases When a disease is to be combated, the Health Officer adds materially to the expense, etc Hence in our sanitary treatment we should impose no unnecessary burden We should live up to the knowedge we have, thus in typhoid, as we are reasonably sure that it is not carried by the air, but by the person becoming soiled by the alvine discharges from the patient, there is no need to include this disease among those where special precautions are to be taken for transportation upon railways, etc Cerebro-spinal meningitis does not seem any more communicable than pneumonia, then why should physicians be compelled to report it? We should frankly acknowledge our limited knowledge, and where the case involves unsolved problems, our precautions should include an attempt to protect against every plausible method of communication We should ever be on the alert to learn new facts, and modify our treatment accordingly The Health Officer should be a physician, not a policeman The municipality should be willing to pay as much to him as to its attorney or surveyor Without this a self-respecting physician should decline the position On these foundations, I will outline the treatment Diphtheria will be a good illustration Compulsory notification should be insisted on If in doubt as in chickenpox, it should be reported In diphtheria, not only pseudo-membranous croup but diphtheritic sore throat should be reported With proper care, no harm will result, lives may be saved and a source of temptation removed from the physician who may desire to save the patient from the surveillance of the Health Officer This person visits the house as soon as possible, and in diphtheria separates the sick and the attendants from the well, if necessary sending them to a hospital Next he inoculates as many prepared tubes as he may require with the secretions of the throat of every one, quarantines the house till the bacteriologist reports, say twenty-four hours If needed, suggests to the attending physician the use of antiseptic sprays to the air passages of the apparently well It is not wise for him to suggest any treatment for the sick He directs isolation In diphtheria two rooms are enough, one for the patient, one in which the attendants change clothing before mingling with others The nurse is to be instructed in disinfecting the discharges, especially from the throat and nose Restriction depends upon the intelligence and willingness of the family When the bacteriologist reports, raise the quarantine from those free from the microbe If the isolation has been observed, and throats sprayed, the chance for infection has been slight If others ow presence of the microbe, isolate at once and refer to e physician Placard the house at first visit The Health fficer should next visit the school or work shop of the tient, and inoculate tubes from the throats of every one the room Further precautions will depend upon the sult from these tubes All articles capable of disinfection ould be so treated When recovery occurs, continue isolation till the throat is free of bacilli, no other time will be afe If death occurs no public funeral should be per itted Dr Geo Duffield's prophylaxis" is bacteriologic iagnosis, quarantine of quarters, isolation absolute with ne nurse, better disinfection under the charge of the Health fficer, notifying pastors of churches and superintendents f Sunday schools of the disease and its locality, the estab shment of the overflow drinking cup in all our schools

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[2] Italics mine

Major Veale emphatically indorsed the points in the paper, and quoted largely from his experience with the city of hiladelphia

Mr Crosby Gray, of the Department of Public Health ead a paper on the

LEGISLATIVE RESTRICTION OF COMMUNICABLE DISEASES

He indorsed the whole of the paper of Dr McIntire The oundation for this treatment is law, education will not uffice The health authorities must be notified early Un ortunately, some doctors say diphtheria is not infectious or contagious These persons must be met and if such a ne purposely diagnosed wrongly his is the responsibility he law must name those diseases to be reported, then the ealth authorities must be empowered to act, to isolate, ither at home or remove to a hospital Placarding is very ecessary It protects the community and discourages indiscriminate visiting The public must be informed how to void the disease The law must not permit placards to be emoved, and must require in case of death that the body e disinfected, placed in a coffin in as short a time as possi le and not again exposed The funeral must be private nd the burial speedy Under no circumstances should chil ren be permitted at the funeral The services f any hould be brief, and no transfer of the corpse allowed to another house Heads of families and heads of churches should e held responsible for infraction of this law The law hould also authorize the thorough disinfection of the prem ses the clothing, everything and this must be done by the uthorities, not trusted to the family He had great faith n fire hence burn up all articles that can be so treated Vehicles in which such bodies are removed should be pre cribed by law as often disease is spread by the use of a car iage in which others ride with the corpse Schools are hot eds for the spread of disease hence the law should prevent return to school till all danger is past Certificates of the langer being past should be demanded, and these based on the bacteriologic examination Next certificates of vaccination required before entering school should set forth a successful result Again, those who have suffered with variola should not be allowed to mingle with others till pronounced free from infection whether by their clothing or persons The law should not permit the transfer, in any way of furniture so infected, as this is a common mode of carrying disease No buildings should be rented until fully disinfected satisfactorily to the authorities Dr McIntire gives excellent advice but the law must stand by and enforce these provisions

Major M Veale read a paper on "Compulsory Vaccination Will Vaccination Protect?"

Dr W M Welch, in charge of the Municipal Hospital for Infectious Diseases, Philadelphia speaks from an experience of twenty five years, and nearly 6 000 cases Variola 2 831 cases, deaths 1 534, per cent 54 18, varioloid 2,169 cases, deaths 28 per cent He says "All unvaccinated cases if recovery took place, were disfigured for life, all vaccinated after a few months showed little if any appearance to indicate that they had suffered Whole families have been brought to the hospital all the unvaccinated ill with smallpox the vaccinated children not" He gives the most positive testimony to this end During all these years he saw no nurse, laundress cook etc, when properly vaccinated before going on duty take smallpox He believes that if all persons were properly vaccinated in infancy and again at puberty, smallpox would disappear Dr Severidge, an eminent Scotch physician gives similar testimony The Board of Health of Philadelphia from its experience demanded the right to enforce vaccination

Dr A H Doty, Health Officer of New York, considers it evident that the people of this country are not protected as they should be Many children remain unvaccinated as late as the fifth or sixth year, and revaccination receives practically little consideration In London in 1790, in 100 000 persons there were 712 deaths, in 1883 the average was 3 10 Primary vaccination but not revaccination is compulsory in England, in Germany both are compulsory, and the deaths in 100,000 were 0 30 This proves the need of vaccination Neither prejudice, ignorance nor any other personal consideration can intervene to prevent the law making power which has been lodged by the people with the government of the State, to make all needful regulations touching the security of public health and human life This power in the State is qualified only by such conditions as to the manner of its exercise as are necessary to secure the individual citizen from unjust and arbitrary interference

Dr J T Rothrock, of the State Forestry Commission, was invited to the privileges of the Association, and spoke in reply on the great need for a number of public reservations to preserve the forests, and which he said would equal, if not surpass, the sanitary surroundings for which the Adirondacks were so famed

A resolution was unanimously adopted urging this upon the attention of the Legislature

At the afternoon session, it was agreed to petition the Legislature for $1,000 to publish the proceedings of the Association

Major Veale having presented the subject of the "Need of Hospitals for Tuberculosis," a special committee was appointed on that subject

By request, Dr W B Atkinson detailed the proper methods for prevention of diphtheria by the use of chlorin and sulphur in the infected house The laws of the Association were amended to admit as Associate Members all who had formerly been members of local health boards, etc

Thursday Session

The officers for 1895 were elected as follows First Vice-President, Major M Veale, Philadelphia, second Vice President Crosby Gray Pittsburg third Vice President, Dr W E Allen, Scranton, Treasurer Dr J C Green, West Chester Secretary Dr Wm B Atkinson, Philadelphia

On motion His Excellency ex Governor Robert E Pattison, was made an Honorary Member The Legislature was petitioned to pass acts for the creation of township boards of health, as well as a number of other acts tending to aid in the proper sanitation of the State

Dr Hugh Hamilton Harrisburg exhibited and explained charts showing the relation of topography and sewerage in the town

M G Lippert C E read a paper on the "Best Means of Educating the General Public in Matters of Practical Hygiene" Under hygiene we understand that branch of science which treats of the preservation and promotion of health Sir John Simon says 'Ignorant men may sneer at the pretensions of sanitary science Weak and timorous men hesitate to commit themselves to its principles so large is their application Selfish men may shrink from the labor of change Wicked men may turn indifferently from considering that which concerns the health and happiness of millions of their fellow creatures, but in the great objects which it proposes to itself it transcends in importance all other sciences and in its beneficent operation it seems to embody the spirit and fulfill the intentions of practical Christianity Yet there is less attention paid to its study than any other branch of science It is uphill work to interest the public, we have to look to the schools to lay the foundation Physiology and hygiene as taught in the schools is nothing but a series of temperance lectures and an effort should be made to interest our legislators to amend the laws and allow of a more rational instruction in hygiene Once properly taught, time is only needed to have it exert a beneficial influence on domestic and public life We must not wait, but educate our cotemporaries by disseminating information through the press pamphlets circulars, etc Our own State Board is doing good work and local boards can aid in epidemics by publishing these matters in their local papers The people are led to study them and thus we educate them Unfortunately, epidemics are needed to waken them to this study Health journals play an important part, monthlies are now publishing articles on the subject in an attractive form, sanitary associations are also aiding, but best of all are local sanitary associations Voluntary sanitary committees have been formed in a number of localities in the State These should be instituted everywhere and the women should be enlisted and then trust to their good sense, tact, influence and enthusiastic cooperation We find by their Health Protective Associations in Philadelphia, Pitts burg, etc , that they are fully alive, and smaller places may pattern after these Physicians civil engineers, lawyers, editors, etc , should be called on by the ladies to aid by their intimacy with many points Let us all make the effort and organize our own communities It may take time, patience and perseverance, yet it is worth the effort

After some discussion Dr Groff offered the following

Whereas, It has been affirmed that the instruction in hygiene and sanitary science in the public schools of the State is from books, unreliable and without scientific standing, and,

Whereas, These allegations are denied, therefore be it

Resolved, That the President appoint a committee of three to examine the books in use and the methods employed in teaching hygiene and sanitary science in this State said committee to report at the next annual meeting of this Association

The committee was increased to five and the resolution adopted

Dr J S Carpenter, of Pottsville, read a paper on "Typhoid Fever," giving details of the epidemic at Mt Carbon, with charts showing the gradual progress of the disease from the initial case

Dr E G Matson, of Pittsburg, read a similar paper, showing how the disease progressed in cities

Dr J C Hutton Health Commissioner of Harrisburg exhibited and described diagrams of hospitals for contagious diseases in cities and towns of modern size He showed how readily and cheaply such hospitals could be prepared and fully relieve the locality of the dread pestilence in their midst This attracted much attention, and regret was expressed that the time did not permit of a visit to such a building some miles out of the city

Dr B Lee spoke on the proper use of disinfectants, detailing the best for each special occasion and the need of their use, with proper intelligence, the frequent waste and improper use giving rise to false security and the continuance of disease

A special committee was appointed to prepare a code of health laws for the State, that all Boards may work under uniform conditions

Prof T M Drown, Chemist of the Massachusetts State Board of Health, addressed the Association and a few members of the Legislature in the evening, showing how the work was being done in his State, and the good flowing from it in the way of water supply examinations etc

SELECTIONS

Symptomatology and Diagnosis in Spinal Traumatisms which Involve the Osseous Framework—Abstract of an essay read before the Section on Surgery at the International Medical Congress at Rome, April 3 1894, by Dr T H Manley, of New York Dr Manley said "The symptomatology of osseous disorganization in traumatisms of the spine is anything but definite, the bony segments of the vertebral column are so deeply lodged, so powerfully braced, and so shaped and heaped on each other by such an imbricated arrangement that nothing less than great and concentrated violence can cause a fracture of them, and when it does occur in the large majority of cases there is no visible or palpable displacement In the greater number the cord entirely escapes, or only suffers such trivial contusion that nothing more than a *temporary numbness at the periphery*, supplied by the nerve roots beyond the site of injury, follows In the greater number of cases the apophyses alone suffer fracture when the transverse spinous process or posterior neck is involved, but it is only when the displacement of the fragments is inward and the cord is crushed through that symptoms of paralysis or paraplegia follow There is every reason to believe that the spinal cord can bear moderate compression and laceration, combined with considerable longitudinal tension, without sustaining any serious damage Experimentation has clearly proved that the spine may sustain fracture involving the apophyses and extend completely through the bodies without a single neural symptom following In several animals on which I have instituted experiments to determine this question, I was able to produce the most extensive description of fracture, in several of which the spinous body was completely fractured horizontally across and through, thereby producing a distinct communication between the posterior mediastinum or pleural cavity and the spinal canal, and yet no paralysis of any kind succeeded the physical violence employed Spinal fracture possesses no definite symptomatology, therefore, it may be said, its diagnosis in many cases is quite impossible

"Fortunately for the patient, the failure to accurately locate and appreciate the precise extent and character of the fracture in no important manner influences treatment Of late, since the advent of the antiseptic method of wound treatment, some have advocated the making of a free incision over the plane of suspected fracture, when we would be enabled to freely explore the suspected area and, if need be, at the same time deal with the displaced fragments At first sight this might seem a rational and prudent line of action, though if we investigate but superficially into the anatomic, structural composition of the spine, and consider what occurs in a fracture in this region we shall the better appreciate its fallacious foundation The spine is not, as has been alleged, in any manner analogous in structure or arrangement with the head, and therefore, because we may generally, readily, and safely expose the brain the same can not be done with the spinal cord The spinal cord, being very deeply lodged, is always very difficult of access and requires an extensive sacrifice of bone in order to make an opening of ample size to explore and manipulate through And now, after our incision, which in this region is always attended with a great loss of blood where the bones are exposed *a*, there may be no fracture, *b*, one or more fractures may escape detection, and *c* if the fracture involves one or more of the bodies our posterior incision will avail us nothing, as the cord fixed in position by its nerve roots, obscures our view of their posterior surfaces If, however, there has been a positive depression of the bony fragments on the cord and it is completely crushed through, of what avail will be an exploratory incision or a laminectomy in the way of repairing or restoring an organ totally destroyed beyond the point of compression? Not only is the diagnosis of spinal fracture often attended with quite insurmountable difficulties on the living, but even on the cadaver it may very often escape detection or be but imperfectly recognized by the *en courant* method of making necropsies on those who are presumed to have succumbed to spinal injuries, or they are associated with other internal complications A post-mortem examination of the spine for a traumatic lesion of it, in order to be thorough exact, and of any scientific value always requires that the entire spinal column should be *completely detached from the occiput ribs and sacrum* Then it should be brought into good light and segment after segment, when the soft parts have been removed, be carefully manipulated and scrutinized When the examination has been completed it may be returned and fixed in the breach from which it was removed and be covered in"—From the *London Lancet*

NECROLOGY

R C Chenault, M D, February 8 at his home in Glenview, near Louisville of pneumonia Dr Chenault was bor near Richmond, Madison County, Ky, and was a brother o Col Waller Chenault, of Morgan's command, who was kille in the battle of Green River Bridge, and a cousin of Prof J W Chenault, the well known educator of this city H was graduated from the Jefferson Medical College, Philadelphia, and on his return formed a partnership with Dr Alexander R McKee, a noted physician of Central Kentucky Later, he was appointed by Governor Leslie a Superintendent of the Eastern Insane Asylum at Lexington Ky, which he managed with ability After retiring fro that place he established the High Oaks Sanitarium a Lexington Three years ago he removed to Louisville, an retired from active practice He was 60 years of age and life long member of the Baptist Church His remains wil be buried in his old home at Richmond, Ky

D H Oliver M D, of Indianapolis, February 3——Jessi D Wood, M D, of Topeka, Kan, February 2——Nimro Thompson, M D of Smyrna, Tenn February 1, aged 83——F R Graham, M D, of Chester Pa January 27, aged 69 Cyrus Falconer, M D of Hamilton, Ohio, January 28, age 85——John K Stark, M D, of St Louis, January 26, aged 66——J O Whitney M D, of Pawtucket R I January 23 aged 72——C A Morse, M D of Cambridge Mass Januar 31, aged 83——G A Rex, M D, of Philadelphia, February aged 50

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO., WASHINGTON AGENT

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SATURDAY FEBRUARY 16 1895

HYPNOTISM AND CRIME

Our readers will recall that a few years since there was much written on this subject in French journals relative to the celebrated case of GABRIEL BOMPARD, who committed a capital crime while, as she claimed, under hypnotic suggestion Of late there has been a revival of the discussion in this country, and one man has been acquitted of murder and his alleged hypnotizer convicted In another place a reign of terror has been established not unlike that which prevailed in Salem during the celebrated witchcraft epidemic

While the general phenomena of hypnotism have been fairly well understood by the profession, a very exaggerated opinion of the power of this condition has obtained among the laity Sensational novels of the Trilby order have done much to spread, not a knowledge of hypnotism, but a more or less distorted caricature illuminated by the fervid necessities of the story writer

Sensational views like the above will be scouted by the scientific, yet there is a sufficient substratum of truth in the phenomena of hypnotism to make its medico legal relations of great importance It is a singular fact that even recent works on medical jurisprudence, notably the "System of Legal Medicine" (R B TREAT, 1894) practically ignores the forensic aspects of the subject

One great difficulty in defining the forensic relation of hypnotism was to get some fixed point It all seemed so vague and intangible that the application of legal rules appeared to be hopeless This difficulty has been overcome by an article from the pen of THOMPSON JAY HUDSON (*New York Medical Journal*, Jan 26, 1895) The writer rejects the theories of CHARCOT and RICHER, that hypnotism is but a phase of hysteria and accepts the definition of BERNHEIM, that it is "the induction of a peculiar psychical condition which increases the susceptibility to suggestion" It is the view that hypnotic influence is an essence or current, that proceeds from the operator, and not a subjective state only in the person hypnotized, is what gives this subject such terror for the ignorant

MR HUDSON shows how the prevalent view that a person may be induced to commit a crime while under its influence, is brought about by the fact that a person in such a state usually accepts the will of the operator as his own If the operator suggests that he is an angel or a demon, he will act the part to the life within the limits of his mental and physical capacities He points out how these facts with the various laboratory experiments have been made to do duty in formulating a very incorrect idea of the power of suggestion while in the hypnotic state

The laboratory experiment in which a hypnotized person is given a dagger and informed that it is a real dagger, and told to strike at another person, is supposed to represent what might actually occur in real life were the hypnotizer an evil disposed person who wished a certain crime committed and had the subject well under control MR HUDSON points out how very erroneous such a deduction would be, for he says the conditions are very different in real life In a laboratory experiment, the one who is hypnotized knows he is surrounded by friends, that no possible harm will come to him or to others, and that in yielding to the will of the operator no chances are taken These unconscious or what HUDSON terms, auto suggestions are the real ones which influence the hypnotized person, that is, if one suggestion counteracts another, no action will take place If one is stronger than another, action will take place along the line of least resistance He therefore divides auto-suggestions into four classes 1, volitional, 2, moral and educational, 3, instinctive, and 4 environment Therefore the argument becomes simply this, that in a given case, if a person in a hypnotic state has a criminal act suggested to him, if he yields to that impulse, he is essentially a criminal in his nature If, on the contrary, instinctive, moral or educational suggestions are encountered, the act will not be done That this is a fact, and that very little importance can be attached to the laboratory experiment, is well shown by the example cited by DR JAMES R COCKE, of Boston Standing in front of a deeply hypnotized subject, he placed a card in her hands, telling her that it was a dagger, and commanded her to stab him This command was immediately obeyed with the greatest alacrity He then handed her an open pocket knife and again commanded her to stab him She raised her hand as if to execute the command, berg, quotes it in the sixth edition of his "System of Surgery," translated by South in 1847, (vol iii, p 509) in the following words

"In complete division of the intestine, Denans introduces into the upper and lower end of the gut a silver or zinc ring, thrusting it inward about two lines from each end, he then brings the two ends together over a third ring, of which the two springs retain the external rings The included ends of the intestine mortify, and the rings thereby becoming unfastened are discharged by stool, after they have united the serous surfaces in contact This experiment in the dog has most successful results"

It is not clear that Denans tried his instrument on human beings EDMUND ANDREWS, M D

American Medical Publishers' Association

ST JOSEPH, Mo, Feb 6, 1895

To the Editor —Please be kind enough to announce in your next issue, the meeting of the American Medical Publishers' Association, which will occur on May 6, 1895, at the Eutaw House, Baltimore, Md A program of interesting papers is being prepared, and a full attendance of the medical publishers of the United States is desired

Yours very truly,
CHARLES WOOD FASSETT, Secretary
LANDON B EDWARDS, M.D, President

BOOK NOTICES

Relations of Diseases of the Eye to General Diseases By MAX KNIES, Professor Extraordinary at the University of Freiburg Forming a Supplementary Volume to every Manual and Text-book of Practical Medicine and Ophthalmology Edited by HENRY D NOYES, A M, M D, Professor of Ophthalmology and Otology in Bellevue Hospital Medical College, etc Octavo, 470 pages, illustrated, extra muslin Price $4 25

The doctrine of mutual interdependence taught by the fable of the belly and the members, was taught by what was apparently thought at the time a self evident physiologic fact Yet there is little doubt but the practitioner who palpates the abdomen, and searches the test meal carefully, usually forgets that the patient has any eyes, and the ophthalmologist as blindly ignores the fact that his patient has any stomach or any nervous system beyond the optic nerve To be the mutual friend and Mentor, and perhaps referee between various specialists and the general physician and general surgeon is the object of this book, and it would seem on examination as if every possible connection between abnormality of the eyes, and injuries and diseases of the remainder of the body, was enumerated in its proper order The book is not one to sit down and read from "title page to colophon" as one would a novel or a new book on serumtherapy but rather one for reference, in particular cases as one looks at a dictionary for a particular word But for all that, few books have been written more philosophically or from a broader physiologic basis There is no redundancy or padding, the author holds closely to his text and the translator and editor have apparently made little variation from the original We quote from the opening chapter

THE NERVOUS SYSTEM

"The relations between the eye and the nervous system are mutual It is rare to find eye diseases the starting point for diseases of the nervous system Much more frequently diseases of the nervous system, especially of the central organs, cause disorders of the eye These may be of a functional character, or may be objectively visible, such as stasis, inflammation of the optic nerve, exophthalmus, spasm and paralysis of the ocular muscles, etc The functional disturbances of the eye often constitute important local symptoms and are indispensable in the local diagnosis of brain diseases On the other hand, the changes visible with the ophthalmoscope in the optic nerve, retina, vitreous body, etc, are of a more general character, and usually enlighten us rather as to the character, than the location of the disease of the brain"

Again, page 265

DISEASES OF THE DIGESTIVE ORGANS

"While there are manifold relations between diseases of the skin and the eye, this is true only to a slight extent of diseases of the digestive organs apart from a few very general occurrences"

And then follow reports of poisoning from the instillations of various medicaments into the eyelids, and the escape of the same through the nasal duct into the pharynx, ocular affections from diseased teeth, visual weakness from hemorrhages, yellow vision in jaundice and the like

Taken all in all, this book occupies an unique place in medical literature and will be a valuable addition to any library not already possessing it in the original The American editor has made some valuable additions, and has done his part well

PUBLIC HEALTH

Smallpox in Chicago —There is a gratifying reduction in the number of new cases of smallpox in Chicago during the present month Between January 1 and February 12 inclusive there was a total of 240 new cases, but of this number 201 occurred in January—a daily average of 6 5—and only 39 in February—a daily average of less than 3 3 The death rate is correspondingly reduced, for January the mortality was 17 2 per cent, for the first twelve days of February it is 9 6 per cent The total number of cases under treatment since January 1, has been 324, including 84 remaining over Dec 31, 1894, remaining in hospital, midnight of February 12, 91

Antitoxin as a Prophylactic —During the epidemic of diphtheria last December, noted in the JOURNAL at the time, the Children's Hospital at Boston, Mass, was so seriously overcrowded that applications for admission were refused It is reported that the disease recently appeared again in the institution and the diphtheria antitoxin was freely used as a prophylactic All the patients were given an injection of the serum and admissions were allowed only on condition that each child should be so treated on entrance It is asserted that all cases of diphtheria entered for treatment were cured, and that there was no extension of the disease among the new admissions, the immunization being complete

An Absurd "Pure Food" Law —The absurdity of the legislation against oleomargarine in the interest of "pure dairy butter" was laughably demonstrated last week at the annual meeting of the Pennsylvania State Dairymen at Meadville, Pa, when prizes were offered for the best butter exhibited Mr A J Palm, editor of the Meadville *Messenger*, who has strenuously opposed the present State law against "imitation butter," sent to Chicago for three packages, which he exhibited as butter and gave the names of three of his dairymen friends as exhibitors The one pound package of imitation received second premium and a third premium was awarded on the five pound package The five pound package of imitation butter scored one point higher than the best dairy butter in the one pound package

Stamping out Tuberculosis —It is estimated that it will require $500,000 to stamp out tuberculosis among the cattle in the State of Massachusetts The following are the figures submitted at a meeting of the Committee on Public Health and Agriculture of the Massachusetts Legislature recently

Whole number of cows in the State, 186,806, neat cattle other than cows, 47,528, number under one year old 15,000, total number, 249,334 Ten per cent of these being the number estimated to be infected, 24,933 Average value of these at $20 apiece, $498 660 Cost of making the test and sundry expenses, $101 340, making a total of $600,000, to which should be added $50 000, for salaries for the commissioners for five years making a grand total of $650,000

A bill before the Michigan Legislature provides that all persons before they can teach public or private schools in Michigan shall be examined and obtain a certificate from a physician that he or she is not afflicted with any communicable form of consumption In support of the bill it is asserted that teachers having the disease have communicated it to their pupils simply by coughing and expectorating on the floor Another bill before the same body calls for an appropriation to buy ground in the vicinity of the city of Ann Arbor whereon to build and equip a consumption hospital

Hygiene of Paris in 1894 —The movement of the population of a city of 2,500,000 inhabitants constitutes a source fecund with practical teachings of hygiene, says *L'Union Médicale* Pathogenic influences are felt there so keenly and translated in such exact proportions that they are amplified, so to speak, as by a projecting instrument When the temperature is lowered suddenly the number of pneumonias is correspondingly elevated, when from any cause it is necessary to turn the Seine water *into the city pipes, the typhoid* curve is elevated and remains so during the time of this exceptional distribution, when a small epidemic of variola develops the number of vaccinations is multiplied, and soon the disease falls below the normal Differences of detail, errors in diagnosis,—all causes of error fade away before the authoritative evidence of large numbers The year just ended is particularly interesting and the weekly bulletins of the municipality furnish the necessary figures The first thing that strikes one is the notable diminution in the general *mortality* It is more than a tenth lower than the mean of the three preceding years And what is still more remarkable this diminution is not found in the communicable diseases Typhoid fever, variola and phthisis on the contrary, present a rather marked elevation The first two, in fact, assumed somewhat the nature of *an epidemic at the* beginning of the year Diphtheria alone fell below the *mean* The following table shows these differences more clearly

Year	Typhoid Fever	Variola.	Diphtheria.	Tuberculosis	Total Mortality
1891	476	39	1 361	11,895	52 558
1892	799	42	1,557	12,153	57,137
1893	649	302	1,465	12,267	52 955
1894	758	183	1 149	12,288	49,079

The constant augmentation of the number of deaths due to disease is also worthy of note It is in accord with the progressive increase of the *population* The *Minotaur* exacts each year its proportional tribute of young lives without being influenced by anything

Etiology of Cholera in Buda Pesth in 1892 93 —Detvös, in a communication to the Royal Medical Society of Buda Pesth, seeks to determine the hygiene of habitations and industrial occupations in the epidemic of cholera in 1892 93, (*Le Bulletin Medical*) He has been able to gather 19,000 observations It is shown that cholera raged most fiercely in the quarters of the city where non filtered water was drunk The new Francis Josef barracks, on the contrary, escaped the epidemic entirely In a tile factory, where a large number of workmen were attacked it was found that they drank from a clay hole in which fecal discharges had been thrown In another tile factory where the disease was also prevalent, choleraic vibriones were found in the drinking water The disease disappeared quickly when the use of canal water, artificially filtered, was prevented Ten and six-tenths per cent of the patients lived *in* unhygienic and over crowded dwellings, 41 5 per cent were day laborers, most of the others being coachmen or domestics out of employment, 8 per cent belonged to the upper classes, 22 4 per cent were alcoholics, 19 6 per cent had been sick previously and 40 7 per cent habitually used cold and dry food M Detros was not able to trace any relation between the epidemic and the ground water, the temperature or the humidity of the soil, but abundant *rains increased the morbidity* The water from canals artificially filtered was shown *to be more infectious* and richer in microbes than *non filtered water which was* simply left to settle *Persons who drank* directly from the Danube furnished a large number of cases

MISCELLANY

The College of Physicians and Surgeons of New York was damaged by fire January 27 Estimated loss is $10,000

STUDENT—Why does the Belladonna mean 'beautiful lady?"

PROFESSOR—Because it is paralyzant to the heart and a sympathetic stimulant, two characteristics of the "beautiful lady"—*The Corpuscle*

Giantism a Disease —Dr Charles A Dana, in the current number of *Scribner's*, discusses the function of the pituitary gland, and—following Marie's discovery, that hypertrophy of this body is frequently followed by abnormal growths—surmises that giantism is simply the result of such hypertrophy, is, in fact, a form of acromegaly It is thence suggested that it would be interesting to learn the condition of this gland in the pygmies

May Testify as to Neuritis Following an Injury —In an action for personal injuries where it was alleged that the plaintiff's body was injured by dislocation, straining and laceration, and injuries of muscles, nerves and otherwise, and there was evidence which tended to show that the knee and hip were injured, and that the sciatic nerve became inflamed in consequence, the Supreme Court of Michigan held (Williams v Cleveland, C, C & St L Ry Co, decided Dec 7, 1894) that a physician might give evidence tending to show that, as a result of the injury, neuritis followed

Should Go to the Jury —When a competent physician acquainted with the facts, and judging from objective symptoms which are consistent with the opinion expressed, expresses an opinion that in his judgment an injury will be permanent, Judge Rumsey, of the Supreme Court of New York, holds, *in the case of Brooks* v Rochester Ry Co, decided October, 1894, the jury may, upon such testimony, find that the opinion is well founded Certainly, he says, when such an opinion is expressed in that way, the question is for the jury, and not for the court

Dangers of Chloroform Narcosis in Diabetic Patients —Baixer calls attention (*Centralb f Chirurg*) to the dangers of chloroform in diabetic patients, basing his remarks on three cases of his own and other cases in the literature On recovering from the narcosis the patients may feel all right but in twenty-four to forty eight hours they experience a sense of inquietude, then of hebetude, which passes into coma, in which state they very often succumb Nothing characteristic is discovered at the necropsy The author has been able to find acetone and acetic acid in the intestines even in non-diabetic patients As chloroform in diabetic patients—perhaps by some yet unknown change in metabolism—may give rise to dangerous secondary symptoms ending in coma and death, the author *thinks the* existence of diabetes is an absolute contra indication to chloroform narcosis

Salicylic Acid Externally in Articular Rheumatism —Suspecting that the therapeutic action of salicylic acid in acute articular rheumatism was due to the anti-neuralgic action of the medicament on the rheumatic arthritis, and not to any specific action of its own, M Maragliano requested MM Jemma and Marengo to institute experiments on the curative influence of the drug applied locally in the form of an ointment This mode of administering the acid was found to be preferable to giving it by the mouth, the derangements of digestion—even gastritis sometimes—so frequently observed when used internally do not follow its external application From the author's researches (*Gaz d Osp*) it is seen that salicylic acid has a decided and constant analgesic property, it acts on the diseased joints like a mild revulsant, not giving rise to any subjective symptoms Its antipyretic action is very slight, but this is also true of it when given by the mouth

Amputation of the Penis —Pousson describes (*Ann de Mal Org Gen Ur*), a method of amputating the penis which he asserts assures hemostasis during the operation, closes the corpora cavernosa hermetically and produces a sort of artificial hypospadias with a meatus of maximum size and constant permeability It is a development of the methods of Esmarch, Phelip, Assaky and Guyon Antiseptic methods having been employed a rubber bougie (No 18 or 20) is introduced into the urethra which, serving as a support for the penis, facilitates the operation This consists of three stages 1, incision of the skin and ligation of the dorsal arteries—the skin is incised at the point where the corpora cavernosa are to be divided, the incision is raquette shaped, with the tail below, the dorsal arteries are then ligated, 2, the division of the corpora and of the corpus spongiosum and suture of the fibrous envelope—the corpora cavernosa are divided a little obliquely, following the skin incision, the corpus spongiosum is dissected up for a centimeter and a half above this and then cut, the fibrous envelope of the corpora is then closed with catgut, 3, establishment of hypospadias and suture of the urethral mucous membrane to the skin—a No 18 or 20 sound is placed in the urethra and allowed to remain until about the fifth day when it is taken out and by about the tenth day reunion is complete The author reports three cases, in all of which this method was successful

Municipal Power where Smallpox is Epidemic —To prevent injury to the health of the public generally, and to its individual inhabitants is, the Supreme Court of Appeals of West Virginia holds, in the case of Thomas v Town of Mason, decided Nov 24, 1894, one of the most important functions of a municipal corporation, and when not expressly given, is conferred by implication upon all governing municipal boards, as a part of the police power of the State, delegated to them by the Legislature, so that reasonable by-laws in relation thereto have always been sustained as within the individual authority of such corporations to ordain And the establishment of a State and local boards of health is not to be regarded as detracting from the general powers of municipal government unless such legislative intent clearly appears The power to relieve the indigent sick in times of epidemic disease is inherent in every municipal corporation, upon the ground of self-protection, if upon no higher ground Consequently when there is an epidemic of smallpox or other dangerous contagious disease within the corporate limits, the council of such city, town or village has power to provide for the medical treatment and care of poor persons residing therein Moreover, this power, it is held, is expressly conferred in West Virginia by a statute which confers upon the town council, and imposes on it, the duty to take care to prevent injury or annoyance to the public or individuals from anything dangerous, offensive, or unwholesome, and stating that it shall have power to make and pass all needful orders, by-laws, ordinances, resolutions, rules, and regulations not contrary to the constitution and laws of the State (Sections 28 and 43 of Chapter 47 of the Code) It may, therefore, for example, employ a practicing physician of skill and experience to treat certain poor persons for smallpox, who are proper residents of the town And having power to create a debt, it can, in a proper case, be compelled by mandamus to provide funds for its payment

Discovery of the "Missing Link"—Dr Eugene Dubois, a Dutch army surgeon at Batavia, announces the discovery of what he calls the *Pithecanthropus Erectus*— a supposed intermediate type between the apes and man This discovery, according to *Le Progres Medical*, has aroused intense enthusiasm in the scientific circles of Europe and, if confirmed, will demolish the anti-Darwinists M Dubois found the remains in the lower quaternary of Sumatra They consist of a well-preserved skull, a femur and a tooth, the two latter were found a few feet away from the skull The cranium is intermediate between those of the anthropoid apes and of the native Australians It has the characteristics of the celebrated Neanderthal skull exaggerated, with its enormous supra-orbital ridges The cranium is 185 ctm long, 130 broad, and has a capacity of about 900 to 1000 cubic centimeters—a capacity much larger than that of the gorilla, but inferior to that of primitive man This capacity is found only among imbeciles in man The tooth, which was the third upper molar on the right, was enormous and resembled one from an ape more than a human tooth The position of the foramen magnum and the posterior aspect of the skull show it was more nearly perpendicular than in any anthropoid The gibbon, of all the apes, walks the most easily, yet it is much more differentiated from man than is this skull We may conclude then that this man-monkey was adapted for walking and a study of the femur confirms this Dr D G Brinton, in a letter to *Science* says "One of the bearings of this discovery is upon the original birthplace of the human race The author believes that the steps in the immediate genealogy of our species were these *Prothylobates*, *Anthropopithecus Sivalensis*, *Pithecanthropus erectus* and *homo sapiens* This series takes us to the Indian faunal province and to the other aspects of the great Himalayan chain, as the region somewhere in which our specific division of the great organic chain first came into being"

Advance in Medical Education —Certificates of having worthily completed the preparatory medical course of the Nebraska State University will hereafter admit students—without entrance examination—to the first year classes in the Department of Medicine and Surgery of the Michigan State University and to the St Louis Medical College, to the second year in the Northwestern University Medica School, to the University of Pennsylvania Medical Department, to the Omaha Medical College and to the John A Creighton Medical College, and to the third year of th Cincinnati College of Medicine and Surgery The preparatory medical course of the University covers a term of thre years and is open to students of either sex who have a fa mastery of English grammar, arithmetic, descriptive an physical geography and elementary history of the Unite States, students possessing higher qualifications are give credit therefore on entering and can thus shorten the term The first year's work includes a thorough course i English, a course in Latin, algebra to quadratics, the firs two books of geometry, logic and elementary courses in botany, chemistry and physics, in the second year structura and physiologic botany, the chemistry of the metallic elements and their compounds with five hours' laboratory wor each week, rhetoric and theme writing, lectures and laboratory work in physics, sound and heat, general osteology hygiene and sanitation and physical training in the gymnasium, the third year covers pharmaceutic botany, a con nuation of the study of the metallic elements and their actions with laboratory work, comparative anatomy and uman osteology, histology and embryology, psychology, inuding a study of the nervous system, sense organs, psycho hysical methods and results, instincts, consciousness, attenon, association, habit, memory, emotions, will, dreams and ypnotism and a course in general physiology It is not lone the mastery of these branches, as preparatory to the udy of medicine, which should be found useful, but the *raining in habits of study itself—the acquisition of the* ools of study and the skill to use them The course is a *istinct advance in the direction of the higher medical* ducation

Clothing and Equipment of the Sanitary Soldier —Military sur eons who have an interest in the uniform and equipment f the Hospital Corps of the various European armies and ho have endeavored to satisfy their interest by an investiation of the official regulations and handbooks, have usully heretofore met with disappointment The uniform of nedical officers could be ascertained with precision to the umber of buttons and the width of lace, but little could e learned of the outfit of the sanitary soldier The enlisted nan of the Medical Staff Corps of the British service seemed o be primarily a soldier, to be clothed and equipped as such nd to be armed with a rifle, notwithstanding the articles of he Geneva Convention At all events he is drilled in the nanual of arms and practices rifle shooting at Aldershot, ut this is no doubt because much of England's warfare is onducted where the Red Cross of Geneva is unknown Even the uniform and equipment of our own Hospital Corps loes not appear to be very clearly defined In the report of he Surgeon General of the Army for the year ending June 30, 1892, are some plates which give us our best information n the subject In these we find illustrated the full dress, fatigue dress and field accouterments In the last the soldier is shown loaded with valise and blanket roll, canteen, haversack, a formidable knife and a large hospital corps pouch containing articles for field or emergency use In the others he is represented as carrying only his knife and pouch Pictures of the Hospital Corps soldier at work are given also in the Drill Regulations of the U S Army Hospital Corps The reason why it is so difficult to learn about the clothing and equipment of these men is because in most of the services the Corps is in an evolutionary condition, and until this stage is completed we can not expect to find satisfying published accounts In Surgeon General Sternberg's last annual report it is stated that some minor points connected with the uniform and equipment of the Corps are under consideration and that these will probably be settled during the course of the present year, 'if the observation and experience of our medical officers suffice to determine the changes that are desirable and proper for permanent adoption with a view to promote efficiency in active ser vice" We have learned that among the points concerned is the non commissioned officer's sword, which is regarded by many as unnecessary as an indication of rank and as an incumbrance in the discharge of duty to the wounded The knife of the private soldier is also condemned by some, it was originally intended to provide him with some kind of a weapon for Indian warfare without appearing to infringe on the terms of the Geneva Convention, but the Hospital Corps men are now authorized to carry revolvers in such wars Even the full dress uniform is regarded by some as an unnecessary provision for the Corps, which should be considered as always on duty to attend to emergency cases occurring on reviews, parades and other full dress occasions

Our British cousins, however, having had more experience than we, have reached that stage in which the whole of the subject of clothing and equipment can be gathered up from regulations and general orders and presented in the aggre gate We have just seen a copy of an English work, recently published and as yet rare in this country, in which this ag gregation has been effected It is a small octavo of 63 pages entitled, 'A Manual of the Dress and Equipment of the Medical Services of the Army, Militia and Volunteers, Compiled by Surgeon Captains Perry Marsh and S O Stuart, of the Army Medical Staff" In the first half of the pamphlet the outfits of the various grades of the Medical Department from the Director General and Surgeons Major General, to the candidate on probation at the Army Medical School are carefully described, so that we have no difficulty in forming an idea of the appearance of an officer whether he is accoutered under the requirements of the review order for dress, the church parade order, the marching order, the field day order, the drill order or the mess order With this, however, we are not interested at the present time

The outfits of the men of the Medical Staff Corps in ac cordance with the various dress orders is given with so much detail that the prayer book, we learn from the church parade order, is carried in the left hand, but naturally our interest turns from this to the provisions for field service The clothing is cut after the fashion of that of the rank and file of the Army, the tunic and frock of blue cloth or tweed, trimmed with scarlet worsted tubular braid around the collar and with the Geneva cross on the right arm The trousers have a quarter inch red stripe on the outer seam The round forage cap, worn jauntily over the right parietal region, has a red button on top, red being the facing color of the Corps The helmet, leggings and ankle boots are those of the infantry soldier The Medical Staff soldier wears a waist belt of buff, which supports a valise, sword-bayonet and pouch, the last is of leather with a flap cover, something like our old style cartridge box, and is worn on the right side towards the front, supported on the waist belt by two loops through which the belt is passed The scab bard of the side arm is on the left with a chape in front The top of the valise behind is on a level with the axillæ, it is supported by two broad braces which pass over the shoulders and appear to be attached to the waist belt by the chape on the left and the pouch on the right The haversack is slung across the right shoulder the ends of the sling passing under the waist belt and supporting the sack over the upper part of the scabbard The water bottle is slung across the left shoulder, its sling falling outside the waist belt and supporting the bottle behind the pouch The great coat, folded, is placed under the flap of the valise, the cape is strapped to the bottom of the latter, and the mess tin on top between the shoulders The valise on war service contains an emergency ration placed at the bottom (the current rations being in the haversack) a shirt rolled and placed next the ration, a woolen cap, a pair of socks and a hold all containing a comb, knife, spoon and fork, and a pocket ledger when convenient The towel and soap are packed on top of the great coat immediately under the flap The weight of the war service equipment is not given, but that of the articles worn on marching order parades, home service, with the water bottle and haversack empty is stated to be thirty-two pounds, three and one fourth ounces Staff sergeants of the Corps have a sword instead of a sword bayonet They carry the water bottle and haversack but have no valise, the overcoat when not in use is *en banderole* as in the case of commissioned officers These sergeants have no pouch on the waist belt, but wear a cross belt from the left shoulder to the right armpit, carrying a special pouch which rests on the center of the back This is said to contain writing materials

The days of pipe clay have not yet departed from the British service, for among the points to be observed at inspection we find "All articles of clothing to be thoroughly brushed and free from stains, the belts well pipe-clayed and presenting a smooth surface"

No statement is made of the purpose of the pouch worn by the privates, corporals and line sergeants of the Medical Staff Corps on the right of the waist belt It is called an ammunition pouch, and is no doubt intended for cartridges, as the Corps is often armed with rifles as already stated, but nowhere is a specific statement made of its contents The word, ammunition, is ambiguous The boots worn by the Medical Staff Corps are called 'ammunition boots," this being the English equivalent of what we would call "regulation boots" or those issued by the government This pouch would make an excellent hold all for emergency or first-aid packets, but the sanitary soldier in the British service does not seem to be provided with any such packets or other pro vision for aiding the wounded It is only when there are wounded to be aided that these articles are intrusted to him In the "Regulations for Medical Services, Part ii, 1890," we find in the instructions for an advance to search for wounded, page 161, that the wagon corporals serve out the surgical haversacks and water bottles required by the bearer company for immediate use, and on page 73 the contents of a surgical haversack are stated, which is one bearer's dressing case, improved, containing several articles which should be used only by a surgeon The men of the bearer companies seem therefore to be merely bearers In this country we endeavor to utilize the intelligence of every man, and even our bearers carry first aid packets and know how to use them In Massachusetts, we believe, the State troops have converted a cartridge box on the belt into a Hospital Corps pouch for emergency necessaries

Hospital Notes

The New Hospital system extending over all divisions of the Big Four railroad became operative February 1 The central hospital is in Indianapolis and branches are located at Cleveland, Cincinnati, Whitewater, Sandusky and Cairo ——The Canton (S D) hospital has been organized with a capital of $5,000 ——The Maternite Hospital which was recently established by the trustees and faculty of the Woman's Medical College of Baltimore, was formally opened January 24 ——The annual report of the Rebekah Hospital of St Louis shows that 309 patients were admitted during the past year

Louisville Notes.

City Hospital —A second case of measles has developed following a sporadic case which occurred in the hospital a week or ten days ago No serious spread of the trouble is anticipated Pneumonia has been unusually fatal at this institution this year, only two recovering among the twenty or more admitted Unusual involvement of the lungs in most cases being found, in one case especially both lungs being almost completely solidified

Medical College Society —A secret order christened the "Phi Chi" has sprung up among the students of the Louisville Medical College, the first lodge being called the Alpha Chapter It is the intention eventually to include all medical colleges in the United States, the membership being limited to this class of students, the object being to "establish a fraternal feeling among medical students, during their college days, that may lead to beneficial results when these are passed "

Liquor License —The report that the druggists had abandoned their fight against the law compelling them to pay a license to sell liquor, seems to have been premature The new hope of the contestants is based on a clause which gives the court the right to intervene where the revenue from the sale of liquor is not equal to the license March 4 is the time set for the hearing

Death Report —For the week ending February 8, there was a total of seventy eight deaths Among these were thirteen from pneumonia and consumption, seven from organic heart disease, and four each from old age, meningitis and typhoid fever

Butler —Dr T L Butler, who is the lecturer on operative surgery in the University of Louisville was presented with a case of surgical instruments at the conclusion of the course Feb 7, 1894

St Louis Notes

St Louis Medical Society —At a recent meeting Drs Hulbert, Blickhahn and Sluder were named by the President as a committee to investigate the merits of the serum therapy in tuberculosis, brought to the attention of the society three weeks ago by Dr Paul Paquin Their observations are to cover an extended period, that their reports may embody conclusions of value concerning the remedy Meantime professional opinions are quite openly expressed A few have taken the trouble to carefully examine the cases now under treatment by this method at the City Hospital, and they are impressed to assert that the matter deserves careful investigation, others, and they are more numerous, have, without evidence of any kind, condemned the new suggestion and its author Their condemnation of Dr Paquin is based on the reports current in the newspapers, their skepticism in the matter of the treatment would be commendable if it were not so gratuitous and unreasonable It is asserted that Dr Paquin is to be tried for a breach of ethics in his manner of presenting this matter

The publication of the society proceedings has been given to the *Weekly Medical Review*, a St Louis journal Now and then there is a bright stretch in this desert of bitter controversy, personal and medico-political, that makes up these proceedings, but this journal has undertaken to contract to publish all, good, bad and indifferent May there be enough of the first to redeem or excuse the rest

The City Hospitals —Just now petitions and recommendations are pouring in on the mayor anent the appointment of heads of the City Hospital and the Female Hospital A new Health Commissioner is also to be appointed The administration of the present incumbent, Dr George Homan, has been marked by conspicuous efficiency

Commitment of Insane to Asylums —A bill has recently been introduced into the Missouri Legislature amending the law now governing the commitment of insane persons to the asylums of the State As outlined in the dispatches, the change contemplated is an important one, but it seems but a careless and unconsidered effort to bring about a needed reform Recognizing the laxity of existing law on this subject, this bill contemplates a reversal to an opposite and no more commendable extreme, in that it makes a jury trial necessary in every case where an insane person is to be deprived of liberty The present law is better than that would be, all the change needed is more formality in the proceedings, raising the qualifications of physicians by requiring experience of three or more years before one can give a certificate of insanity, and the intervention of a court of record The expense that will attend the operation of a law like that proposed will soon demonstrate the economical error it contains

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Feb 2 1895 to Feb 8 1895

Capt Reuben L Robertson, Asst Surgeon, extension of leave of absence granted is further extended fourteen days

First Lieut James M Kennedy, Asst Surgeon, leave of absence granted on account of sickness is extended one month on account of sickness

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Feb 9 1895

Asst Surgeon C P Bagg detached from U S S "Mohican," and ordered to the Naval Hospital Mare Island Cal

Asst Surgeon F G Braithwaite, detached from Naval Hospital, New York and ordered to examination preliminary to promotion

Asst Surgeon James Stoughton, ordered to examination preliminary to promotion

LETTERS RECEIVED

Atkinson, W B Philadelphia, Pa , Antikamnia Chemical Co , St Louis Mo

Baker Henry B Lansing Mich , Brown, Warren, Tacoma, Washington Bell, J W Minneapolis, Minn Bishop, S S , Chicago, Ill

Carheart, J W , La Grange, Texas , Columbia Chemical Co , Washington, D C Cook G F Oxford, Ohio Cushing, M , Joliet, Ill

Dunlap, W B San Francisco, Cal Douglas, R , Nashville, Tenn

Erwin A J , Mansfield, Ohio

Getz H L , Marshalltown, Iowa , Gates, L M , Scranton, Pa Gould, Geo M Philadelphia, Pa.

Humphrey The H B Co , Boston, Mass Hanson, H C , Sparta, Wis , Hummel A L , Philadelphia, Pa

Ingals, E F Chicago, Ill

Lippincott, J B Co , Philadelphia, Pa Loeb, Hanau W St Louis, Mo

Medical and Surgical Sanitarium, Battle Creek, Mich Murphy, M D , Middleton Conn

Nowlin, A , Hulto Texas

Price, Mordecai, Philadelphia, Pa Perpoena Chemical Co , New York, N Y

Reed, R Harvey Columbus, Ohio Roler, A H , Chicago, Ill , Robinson Byron, Chicago, Ill , Rudloff, H , Monks Corner, S C , Rust C A , Saginaw Mich

Sanders, Enno, (2) St Louis Mo , Stearns, F & Co , Detroit, Mich Smith, H M East Las Vegas, N M Strong, Thos D , Westfield, N Y , Sanderson H E , San Francisco, Cal , Sudduth, W , Minneapolis Minn

Tuley H E , Louisville, Ky , Thomas, F S , Council Bluffs Iowa, Tilton, H R , St Paul Minn

Veenschaten, T , Pella, Iowa Vetter, J C & Co , New York, N Y

Wire, G E Chicago, Ill Williams, J L , Boston, Mass , Wyeth, John & Bro , Philadelphia, Pa.

The Journal of the American Medical Association

Vol XXIV CHICAGO, FEBRUARY 23, 1895 No 8

ORIGINAL ARTICLES

A COMMON INJURY OF THE NERVOUS SYSTEM OF THE MODERN CHILD

Read before the Southern California Medical Society Dec [illegible], 1894

BY NORMAN BRIDGE A M, M D
PROFESSOR OF CLINICAL MEDICINE ETC, RUSH MEDICAL COLLEGE
CHICAGO

Man's place in the universe is determined by the character and development of his nervous system His brain and spinal cord preeminently determine his character and force Defects of other organs, as heart, lungs, kidneys and spleen may destroy his life But defect or weakness of brain and cord, while perhaps permitting him to live long, will handicap him perpetually

The conservation of the nervous system must be, from birth to death, of paramount importance Next to the forces that make the general bodily strength and vigor, those that influence the development and automatism of the nervous system are most of all potent in determining the career of the individual, it is true of no other set of organs, as of the nervous system, that impressions and influences of very early life determine the final result

A child has the natural right to the most successful and complete career of adult life that is possible to it Any rational sacrifice or discipline in early years is both justifiable and desirable, if it will perfect and round out the life and character as a whole, and give the individual the best chance in the race for success and the greatest aggregate of happiness Parents have always tried to train their children by their best light, and so as to make the probability of this success the greatest There can be no discounting the good intentions for their children of the great world of parents But they have to-day numerous standards and systems of bringing up and educating children for their best good, and many of the systems are in their tendency and results diametrically opposed to others, and the history of the race has witnessed numerous successive changes among the same people Old systems and ways have been discarded for new ones, always on the theory that the new are better Changes have sometimes been made in accordance with changed notions of what the highest purpose of a child's life is, but probably not generally nor often

Nearly all seem to agree that most children may have to earn their bread directly or indirectly, to live in civilized if not enlightened society, and that they ought to have comfortable if not happy lives of peace and amity The inexorable struggle for existence is never lost sight of by any one undertaking in a large way and seriously the development and care of children A conspicuous few, however, and those most able to do the very best for their children, do seem to think a child should become solely an ornamental part of society The multifarious and manifold changes in methods of education and care of the young in the past, show the difficulties of the subject, and suggest that the last word has by no means yet been said

Insanity and various nervous disorders that more or less disable their victims are alarmingly prevalent, and probably on the increase among our people Why this tendency? That the cause spends its force on the nervous system can not be doubted If a nervous degeneracy of the race is threatened or imminent, the basis of it must be found in some habit of life or development of the individual, and carried on probably through successive generations of individuals

Nature is a good bookkeeper It is true of nerve cells, as it is in the philosophy of life, that you can not both have your cake and eat it Brain cells and all cells are in their capacity for function limited by their inherent and congenital potentiality, differing in different individuals, and always dependent for their best on good pabulum, freedom from effete matter, and time for recuperation after function Long periods of nervous and mental strain can be compensated for only by longer rest, this is unavoidable if a genuine restoration of power is to be accomplished Excessive strain of nervous system as a result of passion or indulgence of any sort ends in reduced power that can only be partially restored by prolonged abstinence and rest Infantile insomnia for a year or two is sometimes followed by some years of excessive sleeping, after which the normal conditions and habits are restored Look at the army of broken-down men of business and women of society who must absent themselves from friends and business for months together for rest and recuperation by changed conditions!

It is doubtful whether excessive strain of any organ of the body, any set or system of cells, is ever entirely recovered from, for cells produce their successors, and the progeny of severely debilitated cells—potentially debilitated—can hardly be expected to be of the highest or the original standard Manifestly, sections of the human race are becoming congenitally weaker in integrity of nerve cells, or the tension of modern life is becoming more severe—the power is lessening or the load is becoming heavier

Among the prevailing nervous affections, short of insanity are 1, nervous and mental weakness shown on slight exertion, so called nervous prostration, great nervousness on exertion, and easy demoralization, 2, a tendency to pain, especially in the head, pain on the slightest overwork or severe mental or ocular attention, pain especially in the back (so-called spinal irritation), and 3, hysteria in some of its forms, spasms, hysterical neuralgias, amyosthenia and aberrations of sight These forms are often terdependent, frequently co-exist, and are interchangeable Is there any nexus between this class of symptoms and any of the prevalent habits of the people? I think there is

First of all, the nervous strain involved in life in society in America is greater than formerly, and so brain cells and their power are worn out faster, the load is heavier Then the unwholesomeness of the lives of many infants and children, on their nervous side, reduces the capacity of their brains to bear worry in their maturity, and so the power is reduced Nothing illustrates this better than the growth of the hysterical habit, as nothing shows better than that how easy it is for injury to be done to the mental and emotional nature The hysterical tendency grows by what it feeds upon Emotional excitement, the shortest step beyond the wholesome limit, is always liable if not certain, to beget emotional lack of stability, then excessive mobility of nervous force in the emotional direction may occur, and frequent and ready explosions Personal attention received, compliments, praise, produce it to a moderate degree, but personal attention expected, looked for or demanded, cause it to a much greater degree and more than anything else in the world Indeed, expectation of the attentions of others, their consideration, compliments and applause, the fear these may not be received, grief chagrin and jealousy at their not coming, or because they are not of the right kind or degree, or just to the liking of the recipient, more than anything else tend to develop the hysterical constitution, and to worry and wear out the nervous and mental resources That mental worry and not work wears us out is an old true doctrine But worry is an emotion entirely, and certainly for many people the secret of happiness is to minify or destroy this emotion

The history of medicine is full of examples of disease produced by the carking emotions of an overdesire for attention, and of jealousy Wier Mitchell has described them and their treatment With these people, to a singularly morbid condition of mind is added the most amazing system of tricks and deceptions to induce sympathy A patient refuses to eat, and is the wonder of the neighborhood—she eats surreptitiously One is completely bed-ridden and can not eat without vomiting—she does sometimes actually vomit—but her nurse is pledged to keep as a secret the fact that she walks about at night and eats freely and retains her food One woman, a supposed wreck of nerves, keeps up her high fever for weeks by sending the nurse out of the room for some trifle whenever her temperature is being taken, and then shaking the mercury upward in the thermometer There is no manner of deception short of crime, if crime even has been the limit, that such patients have not perpetrated at the behest of their insatiable craving

These morbid states grow out of perfectly normal love of the companionship and fellowship of mankind, it is only normal emotion run mad Imagination, love of companionship belong to every child, we can not stop nor curb them much, nor should we care to, it is the morbidity that kills, and the habit of exaggeration and emotional, even hysterical, exaltation is a thing that comes to children, in a smaller way, as truly as to men No observing physician who has treated many nervous children has failed to note how quickly some of these develop symptoms that are inquired about in their hearing, how they often complain of pains and other morbid phenomena, wholly as a result of suggestion or mimetism

The treatment is to take away all the incentives to the deception by stopping absolutely all gratification of the morbid emotions Nobody is allowed to speak to the patient for days who could possibly express sympathy, or pity, or wonder, and the treatment is usually successful The fuel is cut off, and the flame dies

For the neuralgias, nervous prostration and the inability for connected thought, no treatment is so successful as perfect rest, and freedom from care and worry It consists, in other words, in freeing the mind from every influence that has caused the trouble, and putting it and the body in a wholesome state of good hygiene If the recuperation can be complete, and the causative influences can be avoided, the brain does not fall again into the same condition The remedy for the trouble is to avoid the cause

One of the first experiences in the life of a child after birth is of caressings and other proofs of affection These are precious to the groping susceptibilities of the new being, as they are precious through life But perhaps before the end of the first week the child has, if it be born to parents of nervous temperament, learned to demand these attentions It must be walked with, trotted or sung to, to court sleep, and soon will not fall asleep otherwise It could not go to sleep disappointed, and till it gets the sweet pabulum of lulling affection it is disappointed It finds in its mother's heart the same desire to give as it has to have, and so the habit grows and the child is carried on into years, led, followed, obeyed, played with, entertained, and not a minute to *itself* for its poor brain cells to run in spontaneous action So he becomes an autocrat in the home, he demands everything, and if he does not get everything he wants, he gets some supposedly good thing in its place, and he certainly receives constant attention and makes incalculable work for every one about him He must be perpetually amused, if he cries he must be fed, often not good food but goodies, he must be talked to, carried about, drums and music are invoked—anything to satisfy him or stop his crying He can not sleep unless he is carried in the arms, perhaps for hours, or rocked or sung to, then if the lulling stops he is awake again to demand the same process repeated And he is withal a very poor sleeper

We have changed in recent years our methods of dealing with children Formerly they were taught not only obedience but to be seen and not heard, and seen without ostentation, now we rush the most promising of them forward, and lead them to feel, what is largely true, that the world is theirs, and it is a question whether we have gained by the change

Many men and women look back with regret on the severe lines of their own childhood, and thank Heaven that *their* children's lot is cast in gentler ones—but the children are less vigorous than their parents, have more pain and discomfort, hysteria and neurasthenia, and can accomplish less in the arithmetic of the world, moreover, they have proportionately fewer children than their parents had, and the latter had fewer than the grandparents Thus the so called higher civilization and development, and more indulgence of children in what on the moment they wish for, is constantly deteriorating the race, or a distinct and supposedly favored part of it, while they accentuate its refinements of taste and increase its avidity for pleasure They cause such effect of exhaustion of the nervous system of the individual, whether man or child, that a single generation is sufficient to show the reduced resistance to the effects of the environment on brain and nerves

A great lesson that philosophers of all times have taught is the folly of mortgaging the future for the present, of yielding to the desire for a momentary, intense, present pleasure at the expense of the comfort of the long future It has been through the ages notorious that adults are in danger of doing this, and Goethe told only the story that was as old as the thought of the race, Faust was merely the example of a class of intense men and women of all times, ready to promise their future to the devil, or anybody or anything, if their present pleasures can be secured The nineteenth century has witnessed the extension to a large number of children of this sort of sin against mankind, and with both the connivance and assistance of their parents

Instead of allowing the child what it desires, if it is good and not bad for its development, it is often allowed everything it likes unless it can be seen to be harmful for the moment With greater companionship and comradery with their children, parents easily conclude that they should have the same indulgence of pleasures as the grown people Is it any wonder the children should, many of them, with such latitude, increase their intellectual and nervous speed, and wear out their cerebral dynamos? The wonder is, rather, that we who pretend to think should wonder at it

What is the remedy?

1 Give the child, if possible, good general physical health To this end he must have much outdoor life, good ventilation of his rooms, wholesome food in abundance, which he must eat as deliberately as possible Relieve him of every local irritation or chronic inflammation of any part of his body, for such, especially if of the genito-urinary organs, are sure, in a reflex way, to harm the nervous system, to his life-long and unspeakable injury

2 This good bodily and brain health can be attained only by long hours of sleep A child should always go to bed early, *nolens volens*, and it should then have its sound sleep out without being awakened Other things equal, probably not another rule of childhood is so useful as to insist on the largest measure of sleep possible

3 For his brain's future, be absolutely honest with him Give him every good and pleasure that will aid his development and strength for the race of life, these will give him a childhood happy enough, and always blessed to look back upon Withhold the bad things Be as candid and honest with a child as you are with your insane patients From such you often withhold what they ask, and insist on what they dislike, and candidly tell them it is all for their good Why can we not be as fair with the young?

4 If this basis is to be followed, certain definite things in the lives of many children must be omitted We must, as far as possible, compel a tranquil nervous and intellectual life Every indulgence that will minister solely or greatly to nervous excitement and emotional exaltation must be refused Stop walking with the baby and rocking him to sleep Attend to his normal wants, especially as to food and temperature, then put him in his bed and let him alone The instant he finds this rule inexorable he will acquiesce, to his benefit and delight, will have more and better sleep, and gain in nervous strength

Never "show off" a child The trotting of him out in public to speak or play or do "smart things" usually panders to his vanity, if not that of his parents, and develops the hysterical disposition There is no good in it for any child

Never boast of the exploits of a child in his presence, for it encourages his pride, and pride is a vicious emotion in children as it is in adults—and it is not the quality of self-respect, which is always good

Avoid any influence that exaggerates or accentuates the sense of personal embarrassment of a child and teach him, if possible, that bashfulness is not a sin, nor a thing to be made fun of

Don't repeatedly nag the child to preserve the clothes he wears, or about his general neatness or even as to many good manners that he will take on instinctively at his adolescence We don't try to make infants behave like ladies and gentlemen, then why should we little children, or even big children, at the expense of their regard for us, and the good influence we have over them? Above all things, don't humiliate a sensitive child in public

For a nervous child, reduce the emotional excitement to a minimum, and for the excitement of play and bustle with other children, which prevents eating or sleeping well, *compel* certain hours each day to be spent alone or with an unemotional person who will refrain from entertaining him He must amuse himself and rest A child reduced in weight by lack of food, with poor digestion from bolting the little he does eat, but who plays furiously and to exhaustion throughout his school noontime, and who sleeps poorly and with dreams and nightmare, may often be brought to himself and made a new person by being compelled to stay in the house at least one hour in the middle of the day, and to go to bed early Left to the resources of his own ingenuity for a time each day, he finds he has an appetite, and he soon has better digestion and sleeps sweetly, and grows in weight and strength Probably there is no method of correction of a disobedient child so useful in all ways as to make him stop and go to bed in a room alone He dislikes it, but the punishment is devoid of brutality, and the child rests and thinks by himself

Stop the course of things in which the child is constantly pandered to, amused and kept occupied Let him learn to be something of and to himself, work out to some slight extent his own mental salvation, and learn that it is possible for him to stop and think and do nothing for a perceptible time He may envy other children whom he sees having more done for them, but he will some day look back on the time of youth with a stronger brain than the favored children whom he envied can, and his totality of enjoyment throughout his existence will be greater than theirs

The brain of every child that is worth much is active in its own way, and quite sufficiently imaginative We may well direct its activity into wholesome channels of education and equipment for its future, but we are not called upon to increase the normal activity of its brain cells and wear out the powers it ought to have for the more useful years of adult life, or to make for it a tion All the joys and sweet memories of fairy tales are but a beggarly compensation to a large class of sensitive children who, with the fairy tales unavoidably acquire a belief in the reality of ghosts and hobgoblins, and are for years nightly terrified by thoughts of them It is no reply to this contention that it is unfair to deprive the child of imagination, nobody ever succeeded in doing this and probably nobody ever will, nor is it desirable to But let him build up his own imaginative world out of the actualities of his environment and of himself, and he will come to mature years with a maturer and more wholesome and promising mind Many a boy left to himself in these matters has evolved so much of the philosophy of life that, when, later, he reads Plato and Socrates and Emerson, he seems to be repeatedly confronting the children of his own brain

Nor does this plea deserve the censure that it would deprive child life of its pleasures It looks far away from such a calamity But there are pleasures and pleasures, and the circus and spectacular performance do not furnish the kind of enjoyment that is most lasting or permanently satisfying to a normal child They wear him out and give him troubled dreams and make him sick No parent would think of daily sending a child into such excitement The fatuous sin of modern, evolved and cultivated society is that it is doing its utmost to give its children the same character of excitement, only under different color and in a lesser degree, and not far from six days every week, and then wondering that we have among us a growing army of worn-out children, neurasthenics and emotional invalids

Los Angeles

INEBRIETY AND IMBECILITY—A MEDICO-LEGAL STUDY

Read before the Association for the Study and Cure of Inebriety, at the Annual Meeting in New York City, Jan 4 1895

BY T D CROTHERS, M D

SUPERINTENDENT WALNUT LODGE HOSPITAL, ETC , ETC , HARTFORD, CONN

The following records of two cases bring into prominence again the old conception of inebriety, and the recent modern view accepted by the more intelligent courts and jurors

In March, 1894, John Cronin was tried and convicted for the murder of Albert Skinner

"The facts relating to his crime are these He was a farm laborer 37 years old, living about Hartford He has been a periodic drinker since early life, and when sober is a quiet peaceable man, when drinking is excitable, irritable, abusive and often quarrelsome He has been arrested and confined in jail twice for intoxication His drink periods have been growing longer and the sober intervals shorter for the past few years He has been growing more irritable and stupid when drunk lately

"For at least two weeks before the murder he was idle and drank continuously He was intoxicated on the night before the murder A few weeks before this time he had a drunken altercation with the man he shot and at that time made a threat to shoot him Amicable relations were re-established and he seemed to be on good terms with the man, with whom he had formerly boarded and been very intimate

"On the morning of Oct 6, 1893, he went to the house of this man, Albert Skinner, and without a word of provocation shot him at the breakfast table He was pushed and thrown out of the house twice in a few minutes and stood round on the street near the house with a revolver in his pocket, making no attempt to shoot again and coolly boasting of what he had done He submitted to restraint and expressed a wish to shoot others also, justifying himself and affirming that he was ready to accept the consequences, and be hung, and if he was permitted would kill others These expressions of regret that he had not shot more persons were repeated several times

"He was recognized as having been drinking by his breath and strange actions, but several witnesses thought he was fully conscious of his acts and their consequences

"For the next two days all the witnesses seem to agree that he was in a semi-dazed condition of mind, indifferent to all surroundings and would not talk After this his manner changed and he responded to inquiries and conversed, claiming not to recollect any of the past occurrences, and the crime He said that Skinner, the murdered man, was the best friend he ever had"

This crime was characterized by two very unusual lines of conduct

1 Shooting the man in open day in his own home, without a word of provocation, boldly and under the possible observation of many persons Firing only one shot and standing round to see the result, being pushed out of the door by the wife of the murdered man, and going back into the house again, was thrown out by the son, also making no attempt to shoot other persons or run away

2 Offering no resistance when the pistol was taken from him, submitting to arrest, acknowledging the crime and in violent language expressing a desire to repeat the act on the murdered man and others, and take the consequences His cool indifference, and violent expressions unaccompanied by acts, or delirious excitement seemed to those about him not to indicate drunkenness, although his breath was strong with the odor of spirits and his manner was strange and unusual

Thirteen months after the commission of the crime I examined him in the State Prison During all these months he has been free from spirits, and it would be natural to expect that his condition of body and mind would be very near normal

His appearance was that of a short, stout-built man, with a small irregular shaped head, retreating forehead, sunken tremulous eyes, large stigmatic ears and high palate arch He walked with a shuffling unsteady gait, and when seated, supported his head on his hands, and seldom looked up He answered questions slowly and with hesitation and seemed in doubt unless the questions were direct and repeated The answers began in a natural tone of voice and dropped down to a whisper at the close of the sentence This hesitation and doubt differed widely from the cunning reserve of one who would conceal his mental operations, in the apparent feebleness and effort to give some answer and overcome an aversion and incapacity for sustained reason or explanation of any event The impression given was that of a naturally defective brain, already approaching and evidently in the penumbra region of imbecility

He appeared in fair health and without delusions and profoundly indifferent to any past, present or future conditions As a result of persistent questioning the following facts were brought out, most of which have been confirmed from other sources, hence they are generally correct He was intoxicated at about 15 years of age, and has used spirits continuously and at times to great excess up to the present He both drinks alone and in company, and when intoxicated has little or no recollection of what he does or says His memory has never been good At times he can recall events when drinking, at others they are a blank Concerning the homicide he has no recollection of it, the blank of memory extends from the night before the crime, to some time after being placed in jail

He can not understand why he should have shot Skinner as he was his best friend He gave the history of a fall on his head with a period of unconsciousness and a scar showing a scalp wound was exhibited as evidence of it

Three years ago he was made unconscious by a fall from a railroad train and laid up with injuries of the back and knee for two months He has been struck on the head several times when drinking and made unconscious For the past few years when drinking he has been more irritable and quarrelsome and been told that he was crazy at those times He makes no complaint against any one, and expresses no sorrow or indignation at anything concerning the crime or trial He is strangely indifferent concerning his life, and would not escape if he could but is ready to die at any time It makes no difference to him what the result may be

Concerning the future he has been told that by repentance one can go to heaven, if this is a mistake he will accept the situation His wishes are of no account as 'the Lord and the law will have their own way' No questions of his moral responsibility and guilt in this crime, excite any emotion or nervousness, or apparent realization of his condition He expresses himself coolly and with utter unconcern At times a half imbecile smile would appear, when he could not answer the question, and did not know what to say There was no irritation or excitement or depression or annoyance from questions which were pressed, and if different answers were suggested he would select the briefest one

When the same question was put in a different form, he seemed not to realize it but answered in monosyllables, irrespective of any previous answer In all this there was no criminal cunning or attempt to conceal or to appear crazy, but clearly the natural working of a feeble and imbecile mind He seemed to have a remarkably abnormal brain, in which all the higher functions were paralyzed, and the normal consciousness of duty and responsibility were absent

A study of the heredity of this case was startling The near relatives on both his father's and mother's side were hard drinkers, and on his mother's side insanity and epilepsy appear frequently None of his relatives exhibited anything more than a very low order of intelligence

His maternal grandparents were William and Mary Callahan, of Country Antrim, Ireland William died in middle life and Mary lived to be 60 years old, and was insane for some years before her death Catherine, the eldest daughter, the aunt of John Cronin, became insane from the death of her child and the desertion of her husband, recovering in part and coming to this country, where she died in middle life Michael, the second child, was early addicted to drinking intoxicants, and his mother tried to kill the appetite by mixing snuff with his drinks He enlisted in the English army, was discharged insane and wandered about in the woods and finally died of exposure Thomas Callahan, the second son, lives in Hartford and is a respectable man He drank until he was 50 years of age, since which time he abandoned the habit He testified as to the facts of his nephew's ancestry before the Board of Pardons, and appeared to be a quiet man, "thick" in his memory, and in the appreciation of what the counsel was trying to bring out

Margaret Callahan, the youngest child of William and Mary, and the mother of John Cronin, was a nervous excitable girl, who went to Wales with her older sister, Catherine There she married Peter Cronin, a Welsh miner, of a boisterous nature and a man who drank to excess His wife drank with him daily and they lived in a state of perpetual trouble At last Peter was murdered in a drunken row and Margaret became insane for a time Her sister Catherine took her home and adopted John Cronin, who was 1 year old at the time He lived with his aunt until he was 8 years old, when he was put out to work

His mother, Margaret, came to this country and married a man named Moran, who is now dead There were three children by this marriage, one dying in early life and two daughters surviving One of these, Mrs George Somers, is subject to epileptic fits, is a hard drinker, and has attempted suicide She has been in the county jail in this city for drunkenness

Margaret Moran, the mother of John Cronin, is well known to the authorities of Hartford She has been a drinking, troublesome woman during her long residence in and about Hartford and was surrendered to the authorities by her brother, Thomas Callahan, after he had endured her boisterous and wild ways, while under the influence of drink, as long as he could She is now an inmate of the almshouse in this town, where she has been for nearly five years

This brief sketch of Cronin's ancestry shows that his father and mother were both inebriates, an uncle and aunt were insane, and a half sister is a drinking, epileptic degenerate Of the direct stock of his father, John Cronin, was the last, and of his mother the worst descendant

In these facts a very clear history can be traced of what is well known as alcoholic insanity of the imbecile and epileptic class, the prominent symptoms of which are a marked degenerating heredity, usually from an alcoholic, insane or idiotic ancestry, or practically from a dying family, where the race stock is exhausted, enfeebled and approaching extinction Alcoholism in such a family is a symptom of progressive degeneration The drinking is always followed by insane, epileptic and impulsive conduct When not drinking, apparent sanity and normal conduct may be the rule, but the strain of alcohol on a defective brain will bring on homicide, suicide or epileptic explosions The use of alcohol is always followed by delirious conditions, delusions and strange unusual acts

Failures of memory are common symptoms, and may be total or partial After a time a progressive palsy of the higher brain functions appears In most of these hereditary defects this moral palsy and loss of consciousness of right and wrong, of duty and obligation, is an inheritance which the use of alcohol develops All such cases show this strange indifference and unconsciousness of their acts and the consequences The man's talk and conduct in a criminal act is only a link in the chain, by itself it may display a cunning, deliberation, mature judgment and recognition of all the consequences, and yet when the other links in the history are known, it will be found to be the act of a clearly insane man

The act of shooting Skinner with foolish boasts and general conduct, noted by great coolness and indifference, is a good illustration What he did and said at this time and the impression he created on the minds of persons about him, is a small part of his history, and when judged alone may be very misleading, but taken in connection with all the facts of his life, points out the real condition of health or disease It is evident that Cronin's mental condition at the time of this homicide must be judged from the facts of his inheritance, from the facts of his surroundings and manner of life, also from his conduct and acts when sober and drinking, and from all the circumstances and *conditions* which have been influential in his history

The State assumed that Cronin had a low criminal brain, capable of deliberation and premeditation, and with power of control That he could reason clearly concerning his acts and their consequences That in the crime he displayed malice and revenge and full consciousness of the nature of this act, and the legal penalties

That he was *not only conscious of* his conduct, but had the power of control and concealment, to take advantage of favoring conditions That he has been and is of sufficient mental capacity to distinguish between right and wrong in the abstract, and and at the time of crime was of sound mind That his claims of no memory of the act, and cool indifference, are mere subterfuges for concealment

The fact of his periodical intoxication and drinking the day before the crime, were *assumed to be* aggravations and additional evidence of his responsibility

I urged that Cronin could not have a sound brain, that his twenty years of drinking had so fixed and intensified the inherited defects that he could not reason or discriminate soundly That in some respects his conduct would be automatic, where the motives and conditions of living were the same, but change these and his disease would be seen Also, he had "a defective brain showing great disturbance from the use of alcohol, would always be swayed by morbid impulses of any form, and crime, suicide and other abnormal acts would be the rule and not the exception "

Many authorities have pointed out the evident unsoundness of degenerative neurotics, who were alcoholics of long standing The acts of such persons are always *open to suspicion* and where crime is committed there is always a doubt Unusual strange conduct can only be explained on the *theory of brain* degeneration and disease While it may lack many of the symptoms of so-called insanity, it will nevertheless show degrees of palsy and brain disorder which can not be mistaken

This case was argued in all the courts and decided against the prisoner, and finally the Board of Pardons declared him sane, and Cronin was hung Dec 19, 1894 He maintained the same stolid indifference' to the last, sleeping soundly up to a short time before the execution

The second case was tried at Norwich, Conn , in May, 1894, and was that of Michal Donovan, who shot and killed John Bell some months before Donovan was a laborer in charge of a stationary engine, 45 years of age, and a man of quiet peaceable character He was married and had a grown up family, and was a retiring, hard working man For five years he had used spirits to excess at irregular times and intervals and was always silent and stupid when drinking, never quarrelsome or violent During the year 1893 Donovan had drank more than usual, and been stupid nearly every night In December of that year Bell, a colored man, had called him insulting names and was very abusive for some supposed slight At this time Donovan paid no attention to this, saying he was not worth noticing and appeared to be in no way disturbed by Bell's insults Two days after he took an old revolver to a shop to be repaired and loaded, telling many persons he was going to shoot Bell He drank several times and showed the revolver and *affirmed that* he was going to find Bell and kill him This he did in a short time and without any words or apparent excitement, finally, he shot at Bell and finding that he staggered and fell, fired his pistol in the water, and replaced it in his pocket Quietly walking back, stopping to drink at two saloons, telling the barkeepers that he had shot Bell, he went home, changed his clothes, and walked over to the station house giving himself up That night and the next day he suffered from delirium and delusions and was treated as suffering from a mild attack of delirium tremens He soon after recovered and denied all recollection of the crime From this point on to the time of the trial he was quiet, indifferent and seemed not to be interested in anything and only manifested emotion when visited by his family When examined in jail he seemed to be dull and although in fair physical health, was strangely *indifferent to the results of the* trial Expressed sorrow for having killed Bell, but did not remember the facts of the crime, and seemed to be unconcerned He could not give a connected account of the difficulties which led up to the crime, and the suspected motive for shooting Bell, who had threatened to have him turned away from his place of work His mind seemed confused as to events and his own conduct for some time past In the history of his family an uncle on his mother's side became insane in middle life and was confined in an asylum until death Donovan had been a moderate drinker up to about 40 years of age, when he began to have distinct drink paroxysms These increased in frequency and duration until finally he drank steadily every day The past six months he drank almost every hour, and was many times unfit for work He complained of his head feeling bad and said he was "not right" dating from the time of an injury from a fall from a wagon In a conversation with the *medical experts* for the State, two days later, he described the act of killing, denying that he had said he was going to kill Bell, and in a disjointed way explaining why he had shot Bell His statements were opposed to the testimony of other witnesses, and seemed to be based on the history of the crime as repeated by others to him Two medical experts swore that he was sane at the time of the crime and was conscious of his acts and their consequences The two experts for the defense affirmed that it was a clear case of alcoholic imbecility and unconsciousness of acts, and nature of the crime, and that at present he was of a low order of intelligence, with unsound degenerative brain They further urged that the cool preparation for the crime and telling what he was going to do, committing the act in broad daylight where he was seen by others, was clearly insanity Such conduct following excesses in the use of drink, could not come from a mind sane and conscious of the acts committed The counsel for the defense, Messrs Hull, of New London, and Thayre, of Norwich, urged that there was more than reasonable doubt of the soundness of the prisoner's mind at the time of the commission of the crime Also that his excessive drinking before the crime would of necessity so impair his reason and judgment that any unusual acts would be more or less insane and be committed without conscious reason They urged that this crime in its boldness and strange premeditation and execution, and his delirious condition after, was strong proof of insanity The experts for the defense affirmed that the man at the time the crime was committed was suffering from alcoholic dementia, and when confined had an attack of delirium tremens, from which he recovered with an enfeebled demented brain, and at present is in a low paretic condition

The verdict was manslaughter and imprisonment for life This was a rational modern disposition of the case

Both of these cases were alike in the well marked evidence of imbecility due directly to alcohol In the Cronin case, the heredity intensified and made the degree of degeneration very clear, and placed the assumption of insanity and unconsciousness without power of control, beyond all possible doubt In the latter case, Donovan's conduct before and during the commission of the crime and after, clearly indicated the impossibility of mental soundness Neither of these cases were able to reason rationally or to form motives and to act upon them with reasonable consciousness of their import and consequences

The hanging of Cronin ignored all modern facts concerning the brain and its disorders, and was a reversion to the theories that prevailed two centuries ago Donovan's sentence recognized the dawn of a new era in jurisprudence, and progress along the lines of development, with clearer conceptions of the relations and limits of responsibility

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BLISTERING BY SUGGESTION

Read before the Chicago Academy of Medicine Jan 11 1895

BY H C B ALEXANDER, M D

CHICAGO

As early as 1840 Dr Lewis Prejalmini with "magnetized" paper produced the effect of cantharides As Bjornstrom remarks, suggestion not "magnetized" paper caused the blistering Bjornstrom demonstrates that, by suggestion, congestion may be produced, carried to raised swelling of the skin, to a blister like that of cantharides, to bloody transudation and even to complete formation of a wound Charcot and his pupils thus produced all the phenomena of burns Beaunis hypnotized a susceptible subject, told her that upon awakening she would have a red spot under her forearm which he tapped slightly but so as to avoid redness from pressure Ten minutes after awakening there was evident redness at the place touched which increased in size, was visible about twenty minutes and then gradually disappeared By suggestion Beaunis could cause the mark to remain forty eight hours Facachon informed a hypnotized susceptible subject that a topoalgic spot would be blistered by cantharides The next morning pain had vanished and blebs full of serum were present He cured a right clavicular topoalgia in the same subject by suggestion, during hypnotization, of an actual cautery with the seeming result of a burn The experiments of Charcot and his pupils in the same direction have had almost identical results Beaunis made several experiments on Facachon's subject May 12, 1885, she was hypnotized at 11 A M, on her back at a point unreachable by her hands, a strip of eight gummed stamps was fastened A similar strip had been eighteen hours on another arm without effect Over these a compress was placed and the subject thrice told that cantharides had been used She was closely watched during the day and hypnotized at night with instructions to awake at 7 P M At 8 A M, Facachon removed the compress in presence of Bernheim, Leibault, Leigeois, Beaunis and others When the stamps were removed the underlying skin over about five centimeters was thicker, yellowish, white and inflamed but without blistering Half a centimeter of surrounding skin was intensely red and swollen The spot was covered with a dry compress, three hours later the spot had the same appearance and was photographed one hour thereafter The photograph showed about five blisters They increased, secreted serum and later suppurated Later, the arm of the same subject was blistered in like manner

Another subject suffered greatly from topoalgia Facachon blistered her by suggestion, below the left ear and on the left temple Facachon made cantharides inactive in the first subject by suggestion Having by experiments on a second person, determined that his cantharides blister was active, he used two of the three parts of the same blister on his subject The third part had been applied with due effect upon a patient needing counter-irritation The subject was hypnotized, one piece of the same plaster placed on the left arm and the other on the right The subject was told that the left arm would not blister, while the right would Nine hours later when the bandages were removed the left arm was normal, the right blistered My own case occurred in an hysteric in whom the neuropathic element was partly the result of environment One evening a cutting from a roll of belladonna plaster was placed over a topoalgic spot on the neck The same roll of plaster had been used on other patients without dermic effect A decided blister, however, appeared under the plaster At the outset while the possibility of untoward effects was taken into consideration, it was thought more probable that the blister was due to auto suggestion, as the patient believed that the object of the plaster was to blister The blister healed rapidly under lanolin dressing and suggestion A control experiment was made Cantharides was applied about 9 P M, on a new topoalgic spot of which the patient complained without effect, the patient having been assured that it was simply a pain curing plaster The spot remained free from redness until about 9 A M the next morning, when an incautious remark of the nurse led the patient to surmise that a real blister had been applied, and in an hour, wheals followed by vesicles appeared and disappeared The patient had been meanwhile informed that the nurse had unadvisedly used the term, blister The cantharides plaster was carefully tested before being used The chief value of the present case lies in its control experiments The patient, while obviously in a condition extremely susceptible to suggestion, at no time was in the true hypnotic state

These cases and those in which bleeding occurs at written points in dermographic subjects, explain the cases of stigmatization which from time to time appear in religious communities and of which the latest case was reported by Dr M F Cooney as having occurred in Kentucky In many of these cases the influence of suggestion is evident, from the fact that the side wound of Christ occurred on the right side in lieu of the left, because of the ignorance of the stigmatized subject

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THE NON-TOXICITY OF UREA

BY R HARVEY COOK, A M, M D
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Urea being the final product of tissue metamorphosis and apparently playing no rôle whatever in our economy, it was natural to consider it a waste material, of which our system should rid itself Finding this material diminished in various affections it was *a priori* considered that the system must be overloaded with this effete material, urea

That urea is even yet considered a toxic body by many, is apparent from the numerous articles attributing toxic effects to this substance The recent article by Dr J Nelson Teeter, on "The Relation of Urea to Epilepsy," which appeared in the January number of the *American Journal of Insanity*, has caused me to write my observations and experiments in regard to the toxicity of urea

Perhaps no one has done more toward fathoming the mysterious depths of auto-intoxication than has Bouchard, to him my experiments are due, nor do my experiments differ from his, but prove to my satisfaction that his conclusions are justifiable, *i e*, that urea is not a toxic substance—or rather is not toxic in the quantity found in any known pathologic state

My first experiment was to inject into the vein of a rabbit weighing 1 247 kilograms, 2 grams urea in fifty c c water The animal showed neither stupor, somnolence nor convulsions Since the solution was injected directly into the vein, it was not possible for the urea to have been eliminated as rapidly as it was absorbed Supposing 1 kilogram of animal to form 4 grams urea—which is the amount normally ascribed—this animal would normally have formed in twenty-four hours only 498 grams, but we injected 2 grams which is four times the amount formed in twenty-four hours, this animal could have retained the entire amount of urea formed in four days and suffered no ill effects Accordingly, man could retain with impunity four times the amount of urea formed in twenty-four hours Since he forms say 32 grams per diem, we would have 32 x 4 128 grams, which is over four ounces The conclusion must then be that the various phenomena attributed to the poisonous effects of urea are not due to the same, but probably some other body

I have repeated the experiment, with some increase in the amount of urea, and find in order to kill 1 kilogram of animal it is necessary to use 6 grams of urea A man of medium weight, say 60 kilograms, will then require 360 grams to produce death A man of this weight should form 24 grams urea in twenty-four hours, but we have shown it would take 360 grams to poison him, which is fifteen times more than he forms in twenty-four hours, therefore that his death should be due to retention of urea, he would have to retain the entire amount of urea fifteen days These experiments show conclusively that urea, contrary to what is generally believed, is but feebly toxic

In double calculous obstruction uremic (so-called) accidents occur on the second or third day, but according to the above observation, the person has formed at this time only one-eighth of the amount of urea necessary to cause death

According to Bouchard, urea is a diuretic While, then, this product of disassimilation causes the kidney to secrete, it not only makes its own escape, but likewise removes other waste material from the system In cases of hepatic uremia, where there is not sufficient urea, or in cases of some pathologic state of the kidney, upon which urea can no longer act, we find as a result a diminished amount of urea, and as a result of this deficiency of nature's diuretic, an overloading of the system with various other substances, and to these we must look as the cause of intoxication

Although urea in itself is not a toxic body, the value of a quantitative estimation of urea is not to be lost sight of, for since this is the substance which forces the renal barrier, it necessarily follows that if the urea be diminished we must find other waste material diminished in proportion, thus making the quantity of urea a criterion, to a certain extent, of the toxic matter retained within the system I have under observation cases of insanity undoubtedly caused by an auto-intoxication, in which the urea is at times reduced to 9 grams per diem, this showing to my mind that the toxic materials are retained in the system in some proportion at least to the urea

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A NEW OPERATION FOR THE RADICAL CURE OF HEMORRHOIDS

BY N H HENDERSON, M D
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CHICAGO

A few years ago the surgeon who had before him a case of hemorrhoids found himself between the devil of ligation and the deep sea of the actual cautery But in the great "onward march" of surgery this particular field has not been overlooked, and to the specialist there are few cases not amenable to some form of treatment

When Dr Whitehead gave to the profession the "Whitehead operation for the radical cure of piles," much was said for and against it Then Dr Pratt introduced the famous "American operation" Both are too familiar to require description, and both have much to recommend them, as well as much that invokes criticism It would seem that in the simple operation of destroying a few hemorrhoids, there would be little room for difference of technique, yet how often a slight change in the *modus operandi* will simplify and render easy a once difficult problem, at the same time giving better results

It is my purpose to describe an operation, which, by virtue of its simplicity, is preferable to either the Whitehead or the American, in cases where either of the latter are indicated

The patient is prepared as for any operation on the ectum, by giving liberal cathartics twenty four hours previous, followed in twelve hours by a copious enema, light or perfectly liquid diet for twenty-four or thirty-six hours before the operation When on the table, wash out the rectum and dilate thoroughly with a large speculum Now seize the hemorrhoidal tissue at different points of its upper boundary with "T" or the ordinary hemostatic forceps, as in the American, by slight traction, everting the entire circumference Next, divide the tissue at the junction of the mucous membrane with the true skin, encroaching as little as possible upon the integument Dissect the hemorrhoidal tissue from the sphincter, being careful not to injure the muscle at any point Having carried your dissection up as far as the hemorrhoids extend, remove the loosened tissue completely, catch up the bleeding points and, if necessary, tie them If we were to stop at this point, we would have so much contraction of the parts when they had healed that the patient would be in a worse condition than before the operation, just the condition that is many times presented after the Whitehead or the American operations To obviate this difficulty we will go a step farther Again put the sphincter on the stretch and before removing the speculum, make a free incision in the posterior median line to the extent of dividing all of the muscular fibers, and with the scissors trim away each edge of the wound, so that they will not roll together and immediately unite We now present a complete section of one-half, three-fourths, or possibly an inch of the lower part of the rectum with the sphincter ani laid bare and a deep wound in the posterior median line We will now place within the rectum a moderately large cotton tampon with a strong double silk thread attached, loosen the integument a little to permit the skin to pass a little way into the anal orifice rather than drag the gut out Now by making traction on the threads attached to the tampon we cause the bowel to descend, and by packing with gauze the posterior incision, we prevent its healing except by granulation Now place outside a small roll of cotton covered with gauze to which the tampon threads are to be firmly tied Thus we get an equal pressure from within and without, in most cases completely approximating the edges of the bowel and the skin In twenty-four hours there will be sufficient union to retain the parts in their proper relations, at which time the tampon is to be gently removed, the packing taken out of the wound in the sphincter and the entire wound irrigated Then repack the wound in the muscle and apply any dry dressing preferred If dressed daily in this manner, being careful to keep the incision packed until it has filled in by granulation, and the space between the membrane and the integument healed, as it will, either by first intention or by granulation, you have as a result a normal rectum, capable of performing all its functions in a normal manner In thirty-six hours after the operation give a laxative, followed in twelve hours by an enema, and see that the bowels move daily afterward The advantages this operation offers over the Whitehead and the American are the same, inasmuch as the two are identical, with the exception that in the American the dissection is from above downward and in the Whitehead the procedure is reversed, the object in both cases being to remove the pile bearing portion and unite the mucous membrane and the integument

If you will take the trouble to examine a few cases that have been operated upon by either of the above methods you will find that, even as long as one to two years afterward, there is a band of cicatricial tissue entirely encircling the anus, where the stitches have been, feeling very much like a wire, and which stiffens the muscles so that absolute control is impossible, a state of affairs which must be experienced to be fully appreciated While this is not the inevitable consequence of these operations it is true of a vast majority of cases We also know that it is necessary to continue to dilate the sphincter for weeks or even months after these operations, in order to prevent such a degree of contraction as will leave the patient a prey to insomnia, constipation, dyspepsia, nervous debility, etc

Then again the stitches almost invariably slough out, leaving a gaping and suppurative surface instead of a clean healthy one, as in the case where no stitches are used I assert that in stitching the gut to the skin the parts are thrown so far out of their normal relations that they will never have their normal action, but approximate them by a moderate pressure, as I have suggested, and nature will make allowance for the tissue that has been destroyed The feature of this operation is the posterior incision, which, filling in by granulation, allows for the contraction which follows My personal experience leads me to give this method the preference over the clamp and cautery With the latter, it is impossible to make a complete section of the hemorrhoidal region, and those of us who have had experience and an opportunity to watch results, find that no cases are so prone to recurrence of the trouble as those having been treated with clamp and cautery

As for the practice of tying off large masses of tissue, and leaving the stumps to slough away, thereby exposing the patient to danger of sepsis from absorption, we can only marvel that anything so unsurgical and so cruel has ever been countenanced by the profession But the ligature has had its day and may well be relegated to the curio shops, where it will rank with the rack and thumb screw of Inquisition days We hope that none of our readers are so antiquated in their ideas that the remarks on ligation can be accepted as personal

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D , LL D
NEW ORLEANS LA

(*Continued from page 245*)

CHAPTER V

It will be observed that Dr Dowler records three cases in which in the primary stage of yellow fever, the temperature of the axilla reached 106 degrees, one 106 5 degrees, and one 107 degrees, in the middle period, one case 106 degrees, two cases 107 degrees, one case 108 degrees, one case 108 5 degrees, and one case 109 degrees, and notwithstanding the high temperatures the patients recovered The patient whose temperature reached 108 was cured in seven days, the one with a temperature of 108 5, was convalescent on the third day, and the third with the axillary temperature at 109 degrees, was cured in twelve days The highest temperature observed by Dr Dowler in fatal cases of yellow fever was 110 5 degrees axilla On the other hand, by boldly exploring the regions of the body, a few moments after death, Dr Dowler has shown that the temperature of the deep-seated muscles of the thigh may attain a temperature of 113 degrees F, the epigastrium and rectum 111, and the liver 112 degrees

There is no proof furnished by the observations of Dr Dowler that there was an actual increase of heat in the internal organs after death above that which it may have attained during the active stage All the facts recorded in his tables appear to sustain the view that the high temperatures existed at the same time during life in the internal organs Thus in those cases in which the temperature of the surface of the body in the region of the axilla reached 110 5 during life, it is probable that the temperature of the internal organs was at least from 2 to 4 degrees higher, and it is worthy of note that in not one of his observations on the post-mortem heat of regions, did the temperature of the axilla exceed 110 5, the highest point reached during life It is still further worthy of note, that the case in which the thigh gave 113 degrees, the liver 112 degrees, epigastrium 111 degrees, and the heart 109 degrees, the temperature of the axilla was 109 degrees

My own investigations upon the post-mortem heat in yellow fever sustain the view that there is no actual increment of heat above the highest maximum of the internal organs during life With the sudden cessation of respiration and of the consequent transpiration from the surface of the lungs, and the sudden suppression of the perspiration of the skin and the consequent diminution of evaporation from the surface, there must necessarily be a change in the distribution of the heat, and as it is diffused by conduction from the center to the circumference, an increment of heat on the dead surface If, however, this view be incorrect and if there is in certain cases an actual increment of the total amount of heat in the body, after death by yellow fever, such increment is probably due to the following causes 1, cessation of respiration and evaporation from the surface of the lungs, 2, cessation of perspiration and diminution of evaporation from the surface, 3, the continuance of chemic changes chiefly in the blood and internal organs, and the consumption of the oxygen of the blood for short periods after death, the transformation of certain modes of force, as the nervous and muscular into heat

To demonstrate conclusively whether there is an actual increment of heat in the body after death from yellow fever, comparative experiments should be instituted by immersing those suffering with yellow fever in definite amounts of cold water, (the quantity being regulated in accordance with the weight of the patient), and noting carefully the temperature assumed by the surrounding water at definite periods Similar experiments, corresponded exactly in the quantity and temperature of the water employed and in the periods of time The main element of disturbance to be calculated and as far as possible, eliminated from the first series of experiments would be the effect of pulmonary acts or respiration In the absence of such exact experiments, the subject of post-mortem heat in yellow fever and other diseases must necessarily be involved in obscurity

Dr Dowler, however, inferred from his experiments that there was an actual increment of heat in the body after death from yellow fever, and the views of this distinguished observer and physiologist are worthy of the most careful consideration Thus in commenting on the results of his investigations he says

"The average of five *maxima* of the epigastrium are nearly the same, but if we select ten *maxima* from each of these regions, the thigh will be found the hotter of the two by 0 3 degrees This is the more remarkable, as the observations were made, owing to the emergencies incidental to an epidemic, at irregular, sometimes at lengthened periods after death, when the thigh more especially, from its comparative smallness, and greater exposure, had parted with more or less of its morbid caloric, by contact and radiation

"In one series of cases of yellow fever, taken without selection, the following results were obtained Fifteen patients who recovered, when temperatures were taken at a period which averaged fifteen and one-third hours, after the invasion, and afforded a mean temperature of the hand of 101 8, and for the arm-pits 104 84 degrees, nine persons who died, gave at an average of twenty-two and one-third hours after the invasion—for the hand 103 62 degrees, for the arm-pits 105 44 degrees

"The maxima of these classes coincided, but not the minima In those who died the average was higher, in the hand, the maximum reached by both was 107 degrees, the minimum in the hand among those who recovered, was 95 degrees, and of those who died 99 degrees, the maximum of the former in the axilla, 107 degrees, of the latter 109 degrees, the minimum of the former in the same region, 102 degrees, and of the latter 100 degrees, the latter being *in articulo mortis*

"The extraordinary fact that in some bodies recently dead, the temperature, at various periods thereafter, rises higher than it had risen during any stages of the maladies which preceded—much higher than in the latter stages—has been fully confirmed, as well as another, still more extraordinary, namely, that at uncertain periods, usually, perhaps less than an hour, though occasionally later, the center and periphery will attain to, and remain at a stationary, perhaps a high temperature, which, for a considerable time will neither rise nor fall But, still further than this, either the center or circumference, or both together, having reached a certain temperature, will sometimes fall and rise several degrees, repeating these movements several times These internal and external fluctuations may or may not coincide in time, degree, and duration Assuming that these thermal currents originate in different regions, independently of each other, and pursue different, perhaps curved routes, occasionally uniting at certain points or foci, it might be expected that at these points of contact or convergence the maximum heat would be found These foci are not found in a marked degree, even in the center of the brain, far less in the inferior extremity below the knee, when the calorifacient power is most feeble or null in cadavers

"How hot soever the patient may have been during the progress of fever, the heat generally recedes before and at death, and this recession will, upon averaging a great number of cases approximate natural standards, at least in the arm-pits and some other accessible regions

"The development of post-mortem calorification does not appear to be materially accelerated or retarded by the atmospheric temperature, humidity, or dryness This heat is not the effect nor the accompaniment of, but antagonistic to putrefaction When calorification ceases, physical refrigeration begins, and when the latter is reached, putrefaction is rapidly developed, if the weather be sufficiently warm

The laws of post-mortem calorification are numerous and complex Its increment, decrement, degree, duration, and repeated ebbings and flowings, differ in different bodies, so much that neither physics nor physiology has as yet furnished any satisfactory standard explanation but a parallelism Periodic diseases, in which paroxysms of cold and heat alternate, seem to indicate analogy, if not identity, as do the great but little known fluctuations of the normal temperature during morning, noon, evening and night, among persons in health " (*New Orleans Medical and Surgical Journal*, March, 1860, Vol xvii, pp 210–212)

In the May number of the same journal, in which Dr Dowler continues the subject, he remarks

"Both physiology and pathology furnish abundant evidence that animal heat is due neither to pulmonary combustion, nor in any way attributable to the energy of respiration For example In solar asphyxia (sunstroke of the first degree), which is almost always quickly fatal, respiration is very imperfect, being restricted chiefly to the bronchii and trachea, and is attended with loud mucous rattlings (râles), yet this is the hottest of all diseases As the suffocation, I might say strangulation, increases, so does the heat, which in a few minutes reaches in some cases, 112 degrees F in the axillæ and other regions The post-mortem heat is equally remarkable, and may be of very long duration The lesion usually found being either extravasation into the pulmonary tissues or congestion, which illustrates the previous history of pulmonary embarrassment

"In sudden apoplexy (*apoplexie foudroyante*), as well as in most cases of apoplexy, coma occurs, and as the coma increases, the heat increases and is very persistent after death Generally, in cases of the omatose form of death from acute diseases, particuarly fevers, the close of life is attended with comparatively high temperature, notwithstanding the mbarrassment and infrequency of the respiratory ct " "Whether the pulmonary congestion be the primary or secondary condition of insolation, will not say, but I must remark, that of all morbid appearances of a congestive character, this is the least equivocal, so far as I have examined

Although physiology teaches us that man is endowed with the power of maintaining the same heat of his ody in all climates and all situations, with few exceptions, still it is possible, under peculiar circumstances, that the body may become actually heated eyond the normal standard A chemico vital refrigeration by means of perspiration or evaporation, is constantly going on 'The fire kings,' themselves, hen in a heat of 500 or 600 degrees, would roast and urn to cinders were it not for this refrigerating process, in conjunction with a vital energy which for a me neutralizes the accumulating power of caloric he solar heat in sunstroke probably accumulates upon the surface (and in the lungs), of the body faster than nature can refrigerate through the lungs and the skin by evaporation, the vital energy being exhausted by the contest as well as by the excessive labor (in most cases), is unable longer to neutralize the excess of temperature, vital chemistry is unequal to the task of preventing the conduction of heat into the body, and death is the consequence "

"If we suppose the central, the great vital organs to be as hot during life as they are found to be after death, the only wonder is that vitality should maintain its seat for a week or more, under the positive changes that ought, by every law of calorics, to take place in the *molecular* arrangement of the tissues Let us suppose the brain in life to become as hot as the thigh is found to be after death, that is 14 or 15 degrees F in health, the cerebral mass would expand faster than its cranial walls, the fluids would dilate and perhaps transude, *compression* would be the consequence, attended with convulsions, coma, and other effects incompatible with life Suppose any other organ should become such a focus of morbid caloric only for a moment, would not each vessel from dilatation lose its healthy elasticity and cohesion and thus pave the way *to sanguineous congestion*? In some diseases, the lesions will afford an average alteration as great as fatal gunshot wounds, as, for example, dysentery, consumption, cancer But in a fever how much is unexplained! Is not morbid caloric the agent that eludes the knife of the anatomist? To say nothing of its directly poisonous, let us consider its mechanical effects as above mentioned upon the brain After dilating its delicate vessels, and establishing a sanguineous congestion death follows The brain, as we have shown, falls sooner than other central parts under the law of refrigeration, the cranium contracts, this tremendous force drives the blood down from the brain towards the warmer and more yielding centers of the trunk, perhaps a real apoplexy, without rupture has disappeared So far as morbid heat can be identified as a cause of disease, we deal with a positive, not an imaginary agent, where the ground is not eternally slipping from beneath our feet Albumen, which abounds in the brain and fluids, coagulates at 160 degrees, hematoxin, the coloring matter of the blood at 149 degrees, and moderate increase of heat vastly augments the solvent powers of the serum over gelatin, so abundant in the body The phosphorus of the body were it uncombined, would burn in a heat less than 113 degrees

"Admitting that the whole body be permeated with 10 or 15 degrees of heat, and that it can not render this heat latent, I ask again, is it wonderful that death should ensue? Which atom has not undergone a deleterious modification, or a new arrangement in its chemic, mechanic and vital relations? Delaroche and Berger prove that animals in chambers heated to 120 or 130 degrees F, have their temperature raised 11 or 16 degrees, and die speedily If, as some maintain, all lesions may be reduced to those of nutrition, caloric is an agent well adapted to play an important and fundamental part, not only diminishing the elementary cohesion of the tissues, but in debilitating all the organs, thereby favoring intertextural depositions, hypertrophies, softenings, hemorrhagic serous effusions, morbid secretions, engorgements, and other alterations, solid, liquid and gaseous " (*New Orleans Medical and Surgical Journal*, May, 1860, Vol xvii, No 3, pp 368–372, *Western Journal of Medicine and Surgery*, April, 1843, *New York Medical Gazette*, Vol i, p 209, *New York Journal of Medicine*, 1846)

The researches of Dr Bennet Dowler established the important fact that post-mortem heat was not confined to yellow fever, as will be seen from the following cases recorded in his articles on "Animal Heat" (*New Orleans Medical and Surgical Journal*, Vol XII, 1856, pp 205, 289, 433, 470, 603, 759)

"*Case 1*—Apoplexy, post-mortem heat, E F D, aged 46, born in France, for many years residing in New Orleans, stout and fleshy, long a sufferer from strictures and retention of urine, would allow neither the catheter nor the sound to be applied About a month after my attendance upon him for an attack of acute pneumonia, he was seized in the night with a chill and fever, after rising from his bed in the morning, he fell and instantly expired, in thirty minutes after which, the axilla gave 102 degrees, in ten minutes 105 degrees, continuing stationary twenty-five minutes, in five minutes 104 5 degrees, in five minutes 104 degrees, remaining stationary ten minutes, that is as long as observed A partial post-mortem examination brought to light a stone in the bladder of enormous size"

In this case it is evident that Dr Dowler made no observation of the temperature at the moment of death The rise in the temperature of the axilla may have been due to the equalization of temperature after the arrest of cutaneous and pulmonary transpiration and evaporation In this case the unknown element upon which the entire theory of the post-mortem increment of heat rests is the temperature of the internal organs and especially of the blood in the large vessels just before death No such objections can be urged against the observations in the following case which appears to sustain the conclusion that there was a marked increment of heat immediately after death

Case 1—Chronic enteritis, with pulmonitis, post-mortem heat Aug 18, 1843, room about 80 degrees M H, a woman aged 30, sick about sixty days, dead two hours, greatly emaciated, an incision three inches long in the umbilical region, admitting the air freely, temperature in ten minutes, 102 degrees, in fifteen minutes, 104 degrees, in twenty minutes, 106 5 degrees, in thirty minutes, 104 degrees, heart in 20 minutes, 104 degrees, in twenty five minutes, 104 degrees, in thirty minutes 104 degrees, and slightly declining, right lung infiltrated with pus, gave in ten minutes 102 degrees, thigh 100 degrees

Case 2—Typhus, post-mortem heat Feb 28, 1848, air of room about 65 degrees Mrs ——, aged 26, born in Ireland, last from New York, resident two months, sixteen days sick, dead twenty minutes Axilla 100 degrees, in five minutes, 101 5 degrees, in ten minutes, 101 5 degrees, vagina in five minutes, 107 degrees, in ten minutes, 107 5 degrees, one hour after death, 107¼ degrees, fifteen minutes later at dark, when the experiment ended 107¼ degrees

Case 3—Typhus, post-mortem heat July 22, 1845, air at 5 A M, 76 degrees, at 5 P M 94 degrees A F, a Swiss, aged 30, last from Havre, ship *Swanton* fifty one days at sea, died the second day after landing, experiment begun twenty-five minutes after death, and lasted without interruption two and one-half hours, having been stopped by the funeral At intervals the axilla gave 109 degrees, 110, 110 5, 110¾ degrees rectum 111 5 degrees, epigastrium 109, left hypogastrium 110, right hypogastrium 110 5, iliac and umbilical 110 degrees

Case 4—Typhoid pneumonia with pericarditis-hepatization May 2, 1844, thirty minutes past noon, air about 80 degrees P M, aged 35, sick eight days, hand 90 degrees, bend of the arm 99, axilla 104, popliteal region 99, died five hours after, remained in bed fifteen minutes, and then as long in the dead house, covered with a linen sheet only, thirty-five minutes after death the axilla 104 degrees, and the popliteal 100, in five minutes axilla 105, popliteal 101, in five minutes axilla 105 2, popliteal 101, in 5 minutes axilla 106, popliteal 101 5, bend of arm 101, rectum in five minutes 100, bend of arm 101, in five minutes groin 102, bend of arm 100, in 10 minutes groin 100, hand in ten minutes 100, rectum in five minutes 106, axilla in five minutes 108 degrees nearly

The following observations were made in the order in which they stand, at intervals of one, two, three or more minutes Rectum, 108 5, axilla, 101, rectum, 109 5, axilla, 101 5, rectum, 110 5, axilla, 102, rectum, 110 5, axilla, 102 The observations lasted about an hour and a half, and were stopped by the lateness of the evening, at about two hours after death, the air being then about 79 degrees Brain seventeen hours after death, 83, center of the thigh, 89, air, 83 Putrefaction odor absent at twenty-two hours after death Here the axilla attained a maxima of 108 degrees, nearly one hour and a half after death, exceeding that of the living state 4 degrees, as taken four and one-half hours before death, exceeding that of the dead subject thirty-five minutes after death by the same number of degrees A still greater contrast is found in the palm The rectum rose from 100 degrees in an hour to 110 5 degrees after death, to the maximum of 110 5 degrees at twenty-five minutes later, and was stationary afterward, having gained and retained 10 5 degrees, while the axilla gained 4 degrees, lost 7 degrees and regained 1 degree, when night approached preventing further observations

Case 5—Congestive fever, post-mortem heat Aug 28, 1848, room 88 degrees A F, born in Maine, resident six months, aged 35, sick seven days, dead forty-five minutes, axilla in five minutes, 108 degrees, in five minutes 108 5, in five minutes 109, when the experiment ended

In the majority of cases of cholera observed by Dr Dowler, there was after death a progressive refrigeration from the surface toward the center He records, however, the following case in which there appears to have been a marked increase of heat after death

Case 6—Cholera, post-mortem heat In Aug 24, 1848, air of the house 78 degrees H P, Swiss, dead about thirty minutes, each experiment being consecutive, lasting about five minutes in the following order Axilla 104 5 degrees, 105 75, tongue 98, rectum 108 106 5, 106 33⅓, 108, 108 5, 109, epigastrium 108, 110, 110 5, brain through the nostril 103, concave surface of the loin 108, heart 109 5 brain 102 5, abdominal cavity 108, concave surface of loin 109, rectum 103 5 The experiments ended about two hours after death

Case 7—Solar asphyxia coup de soleil, insolation, ictus solis, sunstroke July 24, 1845, a day of extraordinary heat, air at 6 A M, 80 degrees, noon 93 degrees Deaths from sunstroke officially reported ten, unwritten and misnamed by estimation five, total fifteen G F, born in Boston, aged 28, some minutes before 6 P M, fell while at work at the corner of Camp and Julia Streets, thirty minutes after, the experiments began, for twenty minutes, during the agony, the armpits gave 111 degrees, eight minutes after death 112, in fifteen minutes 112, in twenty minutes 112 5, at about 7 P M 113 The body was then stripped, laid in a cooling house, exposed to a free circulation of air, and was dressed in a muslin shroud The axilla had been in the meantime freely exposed, but gave at seven hours and twenty-five minutes 112 degrees, seven hours and thirty-five minutes, 112, at seven hours and forty minutes, 112, at seven hours and fifty-five minutes, 111 5, at eight hours and thirty minutes, 111, at eight hours and forty-five minutes 110 25, at nine hours, 109.25, at nine hours and fifteen minutes, 109, when the observations ceased

Dr Dowler gives the following as his observations of the temperature of this unexampled day At 6 30 A M, 84 degrees, at 8, 75, at 7 30, 87, at 8, 88, at 9, 90, at 10 A M in the sun near a wooden wall, 115 degrees, touching the same, 130, at 11 A M sand in the street, 143 degrees, at 2 P M, sand in the street, 152 degrees, roof of a house, touching, 150 degrees, at 8 30 P M, 89 degrees River at 8 A M, 83 75 degrees, at 3 P M, 84 5 degrees, in the shade near the sun at 3 P M,, 102 degrees, in the house 97 degrees, at 4 P M, 96 degrees

Case 8—Solar asphyxia in sunstroke, complicated with serous-meningeal apoplexy Aug 30, 1848 11 45 A M, dead house 97 degrees W C, Irishman, aged 35, resident one year, ate his breakfast as usual, worked till 9 30 A M, soon after fell insensible, died 11 20 A M Dead twenty five minutes The thermometer remained in the axilla fifty five minutes, without having been changed, as follows Five minutes, 105 degrees, five minutes, 106 5, five minutes, 108, ten minutes, 108, ten minutes, 108, ten minutes, 108, ten minutes, 108 5, knees, 106, thigh 108, scroto perineal, 108, rectum, seven minutes, 110, fifteen minutes 110, epigastrium, *109 25*, middle of the thigh, 108 75, chest 107 The small intestines contained from one to two pounds of chyle, thin in and near the duodenum, thick and pasty in the middle and lower third of the jejunum, semi coagulated but little adhesion, soft clots or flakes of a milky opaline color prevailed in the ileum, in the lower third of the latter, especially near the valve, a point scarcely perceptible here was noticed

While the above experiments on W C were progressing, the veins became greatly distended, a ligature was placed on the arm, a vein was opened, about two ounces of blood filtered out, after which a trickling took place for a considerable time, amounting by estimation to twelve ounces The circulation was found to be very rapid about the head, the skin of the face and neck were injected, dark, lurid and somewhat mottled, there was no cardiac hyperemia or injection of the dependent parts, the external jugular veins were distended as if ready to burst The left jugular was opened, as for ordinary blood letting, but no drainage or pressure was used, the head being raised, so that the orifice was nearly on a level with the breast bone The blood jetted completely without wetting the skin, forming an arch, the diameter of which continued to extend for five minutes, at the end of eight minutes the arch had contracted owing apparently to small clots in the margin of the orifice Dr Dowler estimates the amount of blood which flowed out of the jugular vein at five pounds eight ounces As the blood letting progressed the congestion and discoloration of the skin of the face diminished Dr Dowler concludes from this experiment that the circulation in the veins was more active than in health

Case 9 —Yellow fever, *intermittent type at its inception*, with prolonged coma at its *conclusion* Post-mortem heat August 29 1843, air about 83 degrees S F, born in Cincinnati, aged 24, sick eight days (incipient coma), hand 104 degrees, axilla 105 The coma continued until death, three days after The experiments with one instrument began thirty minutes after death, and continued about two *hours* in the order of time as follows having been recorded at intervals of two, three, five and sometimes more *minutes* Axilla, 104 degrees, 105, 106, 106, thigh, 106, 107, 108, 107, axilla 107, left hypochondriac, 109, 109, right 109, hypogastrium 106, thigh 106 5, 106 5, lungs 102, heart 103, thigh an hour after the removal of all the abdominal viscera 106 5, and falling Weather rainy, room 84 Body exposed to a free ventilation

Case 10 —Yellow fever, post-mortem heat Sept 15, 1843, noon, air 89 5 degrees A G G, born in New York, sick four days, hand 91 degrees, axilla 100, I bled to syncope, and cupped twice yesterday Died at 1 P M In five minutes after death the experiments began, and were *noted consecutively* every five minutes more or less Axilla 102 degrees, 104 108 5, 107, 106, thigh 106 5, 107, 106 5, axilla 105 5, thigh 106, left lung 106, upper lobe 103 5, heart 104 5, hypogastrium 106 5, 106 5, left hypochondriac 105 5, right thigh 106, left 106, axilla 104, left hypochondriac 104, hypogastrium 106 5, right hypochondriac 106 5, thigh 106 5, hypogastrium 106 5, left hypochondriac 104, right 104, rectum 105, hypogastrium 105 September 16, dead twenty two hours, room 90 (noon), thigh 89, left lung 92, epigastrium 92 Incipient putrefaction

Case 11 —Yellow fever, post-mortem heat August 22, 1843, room 86 J H, born in Virginia, aged 30, sick twelve hours, bled twenty *ounces*, the blood falling on the *thermometer* placed in a *basin*, gave in ten minutes 100 degrees, thirty minutes later, hand 103, both axillæ 107, (blood letting repeated) to syncope, cupping same day August 23, cupped twenty ounces Died at 10 25 A M Experiments began in ten minutes, ending at one hour and a quarter after death, in the following order Axilla 100 degrees, 103, perineum 101, axilla 101 5, 101, rectum 103, 103, axilla 103, when the experiments ceased

Case 12 —Yellow fever, post-mortem heat August 15, 1843 Room 86 P L, aged 20, sick three days, *hand* 99 degrees, axilla 104 August 16, hand 98, *axilla 103* August 18, axilla 99 August 19, room 90, *hand* 98, axilla 101 August 20, died

The observations beginning twenty five minutes after death, were recorded about every five minutes continuously for three hours and forty five minutes, with *one thermometer*, in the order following Room 86 degrees Axilla 100, 105, *106 5, 106 5, 106 5, 106, 106, 106 5*, groin 101, 103 5, right hypochondriac *109*, *left 108 5*, *right iliac* 108, left 108, right *hypochondriac 108*, thigh 109, 109, cardia of the stomach 109, 109, 109, circumference of the left lung 107, mediasternum 107, thigh 107, 107, right hypochondriac 107, left 107, heart 107, hypogastrium 107, thigh 107, heart 107, thigh 108, when the experiment ceased

Case 13 —Yellow fever Extraordinary heat during life, post mortem heat August 23, 1847 *J I*, *Irishman*, aged 28, resident nine months, dying, experiments before death for forty five minutes, hand 107 degrees, axilla at intervals during thirty minutes 110, 110 5, 110, 110 *Died* Axilla at intervals during thirty minutes after death, *110 5*, *bend* of the arm at ten minutes 107 *Carried to the dead house*, stripped and laid out Axilla *about one hour after death* 108, at two hours 107¾ *Darkness put an end to further* experiments

Case 14 —Yellow fever post-mortem heat August 28, 1848 Air about 89 degrees N L, born in France, aged 23, *resident* eighteen months Dying, the hand and the *ball of* the thumb 94 degrees, bend of the arm 102, and *falling*, axilla 106 Dead house 89 The experiments began soon after death and continued with intervals for two and one half hours, in the order following Bend of arm 104 and falling, calves of the legs brought in contact 100, axilla 107, bend of the *arm fifteen* minutes 105 5 Stationary, axilla 107, *soon* 108, *continuing* for forty five minutes, then declined to 107¾, and in one hour after to 103¾

Case 15 —Yellow fever post-mortem heat August 12, 1847 H M, a German, aged *15*, *hand* 89 degrees, bend of the arm 93 Died one hour after *At one hour after* death, the experiments were made *for a few minutes*, having been interrupted by night Axilla 106, 106¾, and rising, being thirteen and one-sixth beyond the living state one hour before death

Case 16 —Yellow fever, post-mortem heat August 13, 1843 Air 91 degrees R C, born in Kentucky, *aged 25*, sick nine days, hand 98 degrees, axilla 102 Died *next day* Room 93 The experiments began thirty *minutes after* death, and were noted every ten to twenty minutes ending with the seventh hour in the following order Axilla 106 5, fold of the groin, 100, rectum 111, 111, axilla 104 104, 104, 104, 104, thighs (in contact) 102, rectum 109, 109 109, axilla *after two hours* exposure 100, rectum seven hours after death 102

Case 17 —Yellow fever, post mortem heat Sept 7, 1843 Air 80 to 83 degrees J G, aged 32, born in Ireland, sick five days, hand 98 degrees, axilla 102 September 11, hand 99, axilla 104 Died twenty four hours after The experiments began ten minutes after death, the body exposed to free ventilation, the *room* 90 degrees, the axilla ten minutes 109, left thigh five minutes 113, epigastrium five minutes 112, thigh old incision 109, epigastrium 112, right thigh new incision 111 After an interval of one hour the heart gave in eight minutes 109, the thigh in five minutes 109 After the removal of all the abdominal viscera the thigh still gave *109* degrees at about three hours after death About one hour after death, both the arms including the scapulæ and shoulder-joints were amputated for the purpose of experimenting on the contractility of the separated limbs The limbs and body together discharged from *three* to four pounds *of blood* which did not seem to diminish the heat of the trunk, *nor* that of the separated limbs, so long as the experiments lasted

Case 18 —Yellow fever, post-mortem heat August, 1893, air of the room 84 degrees L L, aged 25, sick five days (cold for two days before death as in congestion), dead twenty minutes, weather very breezy, body resting on stone floor, freely ventilated, *experiments* with Reaumur's thermometer (now expressed by Fah) *lasted three* hours and forty minutes, that is four hours after death, having been noted every five or ten minutes in the order of *time as follows* Axilla 108 degrees, mouth 103, epigast 108, perineum, without incision, 104, center of the thigh, 108½, *mouth*, 99¾, epigast 108, thigh 106, axilla 104, epigast 107 and 106½, 106½, 106½ Experiments now ceased for one hour and thirty-five minutes, during which time the mercury had fallen 5¾ degrees It rained also Epigast air 104, circumference of the lungs (pluræ) 103, concave surface of the liver and base of the right lung 104, hypogastrium 103, concave surface of the liver and base of right lung 104, when the experiments ceased

Case 19—Yellow fever, post-mortem heat Sept 13, 1894, air of the room 86 degrees N L, a Frenchman, aged 58, sick eleven days, dead five minutes, experiments noted consecutively about once in five minutes, axilla 102, knees brought into contact 102, rectum 104 axilla after free exposure 104, thigh 105, 107, 108, epigastrium 107 thigh 108, 108, 104, 104, left lung 104, right 103 5, thigh 104, 104, 104, right lung (base) 103, left 102, thigh 103, epigastrium 103 September 14, seventeen hours after death, room 86, epigastrium 88 5, thigh 88 5, left chest, 88, calf of the leg 86, middle of the arm 88 5, epigastrium 88 5, thigh in one hour 86

Case 20—Yellow fever, post-mortem heat Sept 18, 1893, S E, born in Germany, last from Texas, resident one month aged 23, sick five days, occasionally delirious, became comatose last night, now dying Axilla 104 degrees, bend of the arm 102 5, palms 98 5 Died at sixteen minutes before 11 A M six minutes after death, axilla 106, eight minutes 107, in two minutes later, 107, one minute 107¼, bend of the arm three minutes later (11 A M,) 104, one minute 104, palm two minutes 98 5 A few minutes past noon, resumed the experiments in the deadhouse, the temperature of which was about 88 degrees The experiments were made successively in the following order, until 1 P M Axilla 107 degrees, and stationary, epigastrium 107, 107 5, right and left hypochondriac 107 5, 107 5, center of upper third of thigh 107 5, 108, axilla 105, brain in the center 105, heart 107, brain 104¾, when owing to urgent circumstances the experiments ceased

In this case during the agony, and even after respiration ceased, an universal tremor, with strong tension of the muscular system took place, while the fingers and forearms were found flexed, having been for a time very rigid The treatment consisted of two doses of castor oil, a mixture of magnesia and charcoal in peppermint water, and at the close brandy

An attentive study of the entire series of cases and observations recorded by Dr Bennet Dowler establishes the following conclusions

1 A temperature of 109 degrees, in the axilla in yellow fever is not necessarily fatal It is probable that in such cases the temperature of the internal organs reaches 113 to 115 degrees

2 Many cases of yellow fever, in the high temperature, and rapid progress and sudden termination resemble sunstroke (solar asphyxia, *coup de soleil insolatio*, heat stroke) When death takes place in the active stages of both diseases, the post-mortem heat may rise as high as 113 degrees, and remain at this point for varying periods of time

3 In many cases of yellow fever, the rise of post-mortem temperature can not be referred solely to the arrest of respiration and of cutaneous and pulmonary transpiration and evaporation

4 Post-mortem heat is not peculiar to yellow fever, but may occur after death from various causes, as lesions of the nervous system, traumatic tetanus, cholera, typhus and typhoid fevers, pneumonia and phthisis The phenomena therefore can not be wholly referred to the action of the specific poison of yellow fever

5 In many cases of yellow fever, as well as of other diseases, there is no post-mortem development of heat above that which existed at the moment of death, but on the contrary the bodies obey the ordinary physical laws of the gradual conduction, radiation and loss of heat from the circumference to the center

6 Post-mortem heat may be due to several causes, among which may be enumerated the following *a*, chemic changes in the blood and organs, which c tinue for a certain period after death, and as t evaporation from the surface of the lungs and sk as well as the refrigeration of the process of respi tion have ceased the full effects of these chem changes are manifested in the increased developme of heat, *b*, the transmutation of the electrical forc and the modifications of physical force known as t muscular and nervous forces into heat

(*To be continued*)

NERVOUS DISEASE IN EARLY SYPHILIS

Read before the Chicago Academy of Medicine October, 1894

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(*Continued from page 248*)

ANALYSIS OF CASES

The cases of early nerve syphilis which have be related can hardly be classified arbitrarily, but m with fairness be divided into 1, cases in whi toxin poisoning was the chief factor, 2, cases in whi organic cell deposit existed and was the main elemen 3, mixed cases in which both factors were probab well marked That these conditions are often abs lutely independent of each other during the acti period is hardly credible I wish in this connectio to again direct attention to the fact that the probabi ity of the presence of organic cell deposit is in dire proportion to the duration of the case Some of t very early nerve phenomena are distinctly toxemic, little later we have a mixture of both, although eith may greatly predominate, later still, the toxic fact is of secondary importance Nerve phenomena ass ciated with a simple typical roseola may be accept as probably toxic The existence of eruptions co sisting of cell deposit, enhances the probability cell infiltration of nervous tissue or the vessels su plying it

Cases 1 and 2 are fair examples of the effects of t syphilitic toxins upon the brain Not only were t meninges directly intoxicated by the products syphilitic germ evolution, but there was in all prob bility a vasomotor neurosis which constituted a st more powerful source of cerebro-meningeal hyperemi The line between such conditions and actual inflam mation is difficult to draw, but judging by the effec of known syphilitic pachy-meningitis later on, it questionable whether actual inflammation is prese in these early types of head disturbance Its occu rence would not be surprising judging by the effec of other poisons—that of rheumatism for example—upon the meninges and brain Periosteal involvement may, I think, be laid aside in these cases

When we consider the excessive engorgement the pharynx in secondary syphilis, we ought not be surprised at the occasional occurrence of seve symptoms referable to meningeal engorgement Th faucial hyperemia is, it is true, referred to actual ce deposit—indeed I formerly so regarded it—but have lately become convinced that vasomotor dis turbance has much to do with it

It would appear that mental disquiet had much do with the determination of the head symptoms i Case 1 This is an important practical point a tending to show that syphilis alone may be quite a different matter from syphilis plus anxiety, brain fag or any condition which tends to disturb cerebral circulation and nutrition

In Case 2 we have in all probability an illustration of what may occur when diathetic conditions and blood impoverishment are superadded to syphilitic infection It has seemed to me that rheumatism, gout, tobacco and alcohol are somewhat alike in increasing vulnerability of nerve and brain tissue both to syphilitic intoxication and cell growth Alcohol is especially open to impeachment by virtue of its pernicious effect not only upon the brain cells, but also upon the cerebral circulation A point regarding the effect of the salicylate of iron which may be pertinent in connection with its results in Case 2, is the fact that I have reason to believe that this preparation is of special value in various toxemias It has apparently been of great service in the treatment of erysipelas, diphtheria and puerperal septicemia This may have a direct bearing upon its action in syphilo-toxemia

Case 3 is by far the most interesting case of my series and is the one which I believe to be most open to controversy It is possible that the Fellows of the Academy may fear that I am carrying the neuropathic theory of syphilitic phenomena to extremes in classifying this case among them, but there appears to me to be no other logical explanation of its peculiarities I certainly do not believe that I succeeded in aborting a double pneumonia by the means adopted in this case

Visceral engorgements and infiltrations are by no means uncommon in syphilis, diffuse infiltration characterizing the early, and distinct gummy deposit the later period Tenderness over the liver, spleen and kidneys are occasionally observed Transient albuminaria is not uncommon I have long entertained the view that more or less transitory circulatory disturbance of the viscera is quite a constant feature of early syphilis That this is due in any great degree to cell deposit, I do not believe, there is too little disturbance of function as a rule It would appear logical to infer that certain visceral areas participate in the changes characterizing the roseola, at which time no cell deposit may be manifest in any location If my position be correct regarding the presence of a sympathetic neurosis produced by syphilitic toxins at this period, the viscera, which bear so important a relation to the sympathetic, could hardly be expected to escape I have said that there is usually no marked disturbance of function, but I have met with some striking exceptions to this rule For example, I have seen severe jaundice apparently due to hepatic involvement at a very early period of syphilis

Hutchinson, I believe, admits that the early lung involvement of syphilis consists of temporary congestions, actual inflammations and infiltrations being reserved for a later stage Aside from the possible existence of pulmonary vasomotor disturbance as the explanation of the phenomena observed in the case under consideration, it is not beyond the bounds of probability that the syphilitic toxins acted in some peculiar manner in this instance, upon the pneumogastric

Irritation and hyperemia of posterior nerve roots readily explain the severe intercostal pain

Case 4 in all probability illustrates the fact that syphilis is likely to seize upon the slightest point of vantage The old back strain and a rheumatic diathesis constituted a point of departure for local disturbance Whether the irritation and hyperemia of posterior nerve roots was in a certain sense a reflex of the muscular disturbance is open to question. I am inclined to the belief that the old injury was the source of local vulnerability, the neuralgic element in the case being, however, the direct effect of the syphilitic toxins upon sensory nerve roots

The necessity for ordinary measures of local derivation and counter-irritation in this case, are worthy of comment

Case 5 shows very conclusively that syphilitic brain disease may remain latent for some time, only to develop upon the supervention of some exciting cause Whether this is true only of the early disturbances of syphilis is open to question It is a fact, however, that in early cerebral disturbance which is due either to toxins or gradual diminution of vascular caliber, or both, the onset is apt to be insidious, with premonitory symptoms of vertigo, slight aphasia, impairment of memory, cephalalgia, sense of head fullness, melancholy, irritability, or perhaps muscular spasm The final stroke may be sudden, but some of the foregoing symptoms are likely to have preceded it The exceptionally sudden development in several of my early cases is a feature of some interest Later cases, which may be due to thrombosis, embolism, or hemorrhage are, on the other hand, often very sudden In the case of hemianesthesia at present under consideration, the character of the lesion is an open question Cerebral hemorrhage should be rare in such early cases, the thickening of the vessel walls and perivascular tissue protecting the arteries from rupture rather than otherwise Collateral vascular strain and hyperemia might possibly explain it Venous obstruction of limited extent, in the presence of active hyperemia induced by venery and alcohol might have been the essential factor It will be understood that I do not deny the probability of a small extravasation in this case I simply wish to assert its rarity in so early a period of syphilis Its occurrence, however, might show that the localization of vasculo cerebral syphilis, depended upon some antecedent non-syphilitic disease This is not likely in so young a subject

The occurrence of acute ischemia of the affected area is not improbable The affected area probably accommodated itself to the gradual diminution of the blood supply, incidental to the encroachment of the syphilomatous process When, however, from any cause the vessels are suddenly occluded the result is well known The mechanism of this occlusion in early syphilis is not so easily explained Embolism is not impossible, but is not to be expected in early syphilis Localized vasomotor disturbance is possible The toxin element does not enter here, save as a complicating factor, that it is the essential feature of the case is not likely After a careful survey of the pathologic possibilities in the case under consideration, I am inclined to the ischemic view of the cerebral disturbance The location of the lesion in the internal capsule or its immediate vicinity may I think be accepted

The subsequent recovery and prolonged good health of this patient typify the favorable ultimate prognosis of many cases of nervous syphilis Case 4 quite forcibly illustrates three important features of syphilitic neuro-pathology, viz

1 The acutely pernicious action of syphilitic toxins upon the nervous system

2 The vulnerability of nerve tissue produced by this early intoxication

3 The importance of such conditions as la grippe and possibly the influence of sexual excess in determining neuropathic phenomena The early nerve disturbance in this case, I believe to have been due to the following factors *a*, direct irritation of nerve tissue and spinal meninges, by the syphilitic toxins, *b*, circulatory disturbance—probably hyperemia—of the same tissues and especially of the posterior roots of the spinal nerves, produced by syphilitic intoxication of the sympathetic The paraplegia which occurred later on, was in all probability due to actual cell infiltration of the motor tracts determined by the perversion of nutrition left by the toxins For that matter the paraplegia did not occur late enough to exclude toxin action at the time it developed Even if the toxins were the point of departure, however, cell infiltration was probably the essential factor at this time I have already spoken of the importance of la grippe in the etiology of this case The sexual excesses of the patient perhaps had much to do with the spinal determination of the syphilitic poison The question has occasionally arisen in my mind, whether the causative influence of syphilis in tabes may not be operative chiefly through the secondary factor of sexual excess Hutchinson reports a case in which acute myelitis was precipitated by sexual indulgence, the patient being well along in late syphilis I recognize the fact that the true importance of syphilis in the etiology of tabes has not been definitely settled Alcohol bears a somewhat similar relation to tabetic etiology, it is probably the determining factor that develops morbid changes in the spinal cord in syphilitics, which abstainers would probably escape

In Case 7 we have an illustration of a condition of syphilitic nerve disease which, while it can hardly be said to be very rare, is yet sufficiently infrequent to be of great interest In this case the fifth nerve was obviously involved It would appear that syphilis has something of a monopoly in the production of paralysis of the fifth Hutchinson states that he has never seen this form of paralysis except from syphilis I am not in a position either to verify or contradict this assertion Neurologists of large experience are much more competent to judge It is to be remembered, however, that Mr Hutchinson's clinical experience has been enormous The only cases which I have seen have been due to syphilis, but strange to say, neither of them bore out Mr Hutchinson's favorable prognostic opinion of such cases He says "I do not recollect a single case of syphilitic paralysis of the fifth nerve which was permanent" The apparent contradiction in my cases was probably due to the late period at which proper treatment was begun In neither of my cases was the cornea involved, the superior division of the nerve probably escaping involvement Hutchinson has several times removed the eyeball in cases of total involvement of the nerve, the anesthesia from the nerve lesion being so complete that anesthetics were unnecessary As a rule, only one nerve is involved, cases in which bi-lateral paralysis of the fifth or coincidental involvement of other cranial nerves being exceptional Hutchinson believes that the want of symmetry and strict localization of the lesion shows that the trunk or ganglion rather than the origin of the nerve are affected

The most interesting feature of the case under consideration is the unilateral deafness So rare is this condition that Hutchinson states he has never seen an example of it Partial deafness in one or both ears, generally temporary, is by no means unusual in early syphilis Tinnitus aurium is another aural phenomenon which is not infrequent and is likely to be very stubborn, but may be unaccompanied by the slightest inhibition of audition In the cases in which absolute deafness occurs the process is not only bi-lateral but may be very fulminant Unless mercury be vigorously used, incurable deafness is very likely to develop in an incredibly short time We are almost in the dark regarding the pathology of these cases Possibly there may be some new pathologic features which the otologists of the Academy can impart to us in the discussion

Deafness develops during the first year of syphilis, as a rule, is rarely if ever tertiary, and seems to be almost identical in acquired and hereditary syphilis, in which latter condition it is very frequent The severity and rapidity of the process in connection with the total abolition of hearing which usually results, warrants its classification among the nerve phenomena of syphilis A disturbance of the relations of the arteries to their bony investments by virtue of a loss of elasticity, thickening and narrowing of the vessel walls, probably explains some of the slighter cases of deafness and tinnitus Some transitory cases are doubtless due to a syphilo-toxic vasomotor neurosis

Where cell infiltration in or about the auditory nerve occurs, the pressure and counter pressure on the delicate nerve fiber must be very great because of the unyielding nature of its osseous investments The syphilitic neoplasm may as usual be quite speedily removed, but pressure and toxic innutrition have done their work and permanent and functionally fatal injury has been produced I see no other logical explanation of these cases There is certainly no explanation which could more powerfully emphasize the necessity for early and radical treatment

A final point of interest is the fact that facial hemiatrophy is exceptionally preceded by neuralgia of the fifth as occurred in my case

In Case 8 we have an example of cerebral disease in early syphilis which is quite rare, the recorded cases being few in number The onset of the hemiplegia in this case was apparently very sudden, as the patient afterward told me that he had felt perfectly well before the attack, with the exception of some slight manifestations of syphilitic fever The lesion in this case was in all probability one of marked vascular infiltration The presence of papular syphilides showed that the characteristic dissemination of cell deposit had begun It is probable that moderate ischemia of the affected area preceded the stroke, the final result being due to a sudden diminution or cessation of the already limited blood supply Theoretical reasoning is our only recourse in such cases and it might be quite as logical to attribute the condition to localized venous obstruction and sudden edema, or possibly hemorrhage, were not for the fact that the disease has a greater edilection for the arteries than the veins, and hemrhage is quite unlikely at so early a period of philis Possibly, however, the effect of alcohol in ecipitating the attack of hemiplegia might be best plained upon the theory of hemorrhage, the teries rather than the veins being the point of eparture Our distinguished Fellow, Dr H M annister, relates a very interesting case with features omewhat similar to mine[3] "I was called into a rge store to see a man who had been seized with an poplectic attack I found a gentleman between 30 nd 40 years of age, completely hemiplegic on the ft side He had not lost consciousness and while entally somewhat disturbed, was capable of giving clear account of himself, which was verified by his iends He had been well, prior to the attack, with e exception of a chancre contracted four months reviously I had him taken in a carriage to his oarding place as he requested, prescribed and romised to call next day The next morning to my urprise I found him up and dressed, all motor aralysis had disappeared but he was completely phasic and could only partially express himself by igns I learned that his hemiplegia had left him luring the night, to be followed by his present conlition This also passed off within twenty four ours, but his mind was left markedly affected, a ondition of mild depression and partial hebetude emained which continued until he left the city and passed out of my knowledge"

Dr Bannister considers this case to have been one of incipient paretic dementia due to toxic cerebral disturbance, and in this opinion I am inclined to agree, but with some qualifications It is unfortunate that the age of the patient, his previous habits of life, his hereditary and subsequent history were not definitely known These points would possibly afford additional support to Dr Bannister's theory of the case, by removing certain features of doubt As to the cerebral intoxication, it was doubtless a very important factor in the case, but there were certain other elements requiring due consideration In the first place, cell deposit was to have been expected at the time the hemiplegia developed, vasculo cerebral changes were probably present with resulting relative ischemia and defective nutrition of the brain The toxins undoubtedly did their full share in perverting nutrition and inhibiting cerebral function, but the sudden paralysis was probably explicable by their vasomotor rather than by their direct effect The speedy recovery of the hemiplegia and the apparent alteration of the morbid process from right to left as suggested by the aphasia which replaced the left hemiplegia tend to show this Temporary vaso contraction of arteries the lumen of which was already diminished by syphilitic infiltration, would serve as a logical explanation The resulting mild dementia was probably due to the combined effects of the temporary anemia and the syphilitic toxins

In Case 9 we have another typical example of early syphilitic hemiplegia with ample evidence of the favorable character of the prognosis under careful and systematic treatment A very important point in this connection is the fact that such cases should rarely occur We can not avoid in some cases—possibly in the majority—the early toxin phenomena, for the reason that treatment may not have time to thoroughly impress the patient before the symptoms of toxin nerve disease develop When, however, we have several months leeway, we should almost always be able to prevent symptoms due inferentially to arterial disease, providing the patient be intelligent and conscientious

Case 10 illustrates the fact that recovery does not ensue even in early syphilitic brain disease, unless the syphilitic neoplasm be removed before permanent changes in the affected tissues have occurred We may sweep away the syphilitic factor in such cases, but we must be very prompt and radical in our therapeutics else nerve ruin be left behind The pathologic process in the case just related, may have been precocious and verging upon gummy change It certainly might be expected to be distinct and circumscribed, as suggested by the marked osteoperiosteal changes

The author has no desire to be arbitrary in his own conclusions regarding any of the series of cases at present under analysis, least of all does he desire to insist on the accuracy of the diagnosis in Case 11 Facial paralysis from other causes is very frequent, while involvement of the seventh nerve in syphilis is very rare, the possibility of coincidence is therefore to be taken into serious consideration Hutchinson, with his vast experience, recalls only two or three examples of facial paralysis from syphilis and in these cases other cranial nerves were also involved He quotes Buzzard and Hughlings Jackson as having recorded examples of it In my own case there was no change for the better until full mercurial treatment was instituted

Another gentleman—also a physician, by the way —had been under my care for syphilis of a duration of something less than a year He developed a facial paralysis which our confrère Dr Church, pronounced syphilitic As this man has gone through a serious surgical operation and was just convalescent, and moreover, from the fact that he had been over treated if anything, from time to time, I doubt the accuracy of the diagnosis Recovery was soon complete in this case, and in a recent letter the doctor gives a very cheerful and reassuring account of his condition

Case 12 is certainly of great interest It would be difficult to prove the connection of the early tabetic symptoms of undoubted specific origin, with the later manifestations of the typical tabes The inference of a causal relation of the early symptoms to the later incurable cord disease is, however, apparently fair At this junction it might be well to again suggest that in many cases of tabes with a syphilitic history, cord intoxication without symptoms may have laid the foundation for later changes

My friend and colleague, Dr H N Moyer, has observed a case which is also pertinent as bearing upon early spinal cord involvement in syphilis His account of the case is as follows

My Dear Dr Lydston —The circumstances attending the case of which I spoke to you I can only recall from memory, but they are substantially as follows Some six or seven years ago I was called to see a woman about 30 years of age who was said to be suffering from an obscure nervous trouble The disease had begun some weeks before I saw her, with quite severe pain in the back and shooting pains in the legs These symptoms had gradually increased until within a few days of the time when she came under observation, at which time she was compelled to take to her bed At the time I saw her, she was apparently very sick and suffering excruciating pains particularly in the legs and a dull heavy aching in the back She was very restless and sleepless The pains were described as shooting or darting up and down the limb, the feet were especially painful and there was a feeling as though hot sand were applied to the soles On examination, there was no special atrophy though there was perhaps some loss of power in the legs She was able to stand with the eyes open but with them closed she would immediately pitch forward The knee reflexes were completely abolished There was impaired tactile and temperature sense in the lower extremities At this examination I detected a diffuse macular and papular eruption pretty generally distributed over the entire body and which up to that time had not attracted the attention of the attending physician The eruption also was present upon the palms of the hands Suspecting the specific nature of the eruption I immediately questioned the husband who admitted that about ten months before he had been infected, but after six months treatment his physician had advised him to marry and he had done so

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[3] American Journal of Insanity, 1894

"To my mind, there was no question that the specific infection was directly responsible for the acute ataxia in which I found the patient An examination of the genital organs did not reveal any primary sore I saw the patient on one or two occasions after this visit and learned subsequently from her physician that under free use of the iodids with mercurial inunction, the pains rapidly disappeared and the patient made a quick recovery Within three or four weeks she was going about attending to her ordinary household duties It would be interesting if at this time I could see and examine the patient, but unfortunately I do not know where she is It is the earliest case that has ever come under my observation"

I greatly regret the lack of accurate data in Dr Moyer's exceedingly interesting case The absence of subsequent history is especially to be regretted Such incompleteness of detail is so frequently unavoidable that many of our most valuable clinical experiences are sadly marred Despite the lack of certain details, however, there is no doubt as to the accuracy of the diagnosis of Dr Moyer's case

It has not been my fortune to observe cases of early brain syphilis with mental symptoms as the predominant element A number of such cases are on record Most of these cases have been collected by an eminent Fellow of this Academy, Dr J G Kiernan's paper being a brief yet comprehensive survey of the literature of the subject of early syphilitic psychoses I take the liberty of quoting his references and cases in full[4]

(To be continued)

NEW INSTRUMENTS

AN IMPROVED INSTRUMENT FOR DRAINING THE ABDOMINAL CAVITY AFTER LAVAGE IN ABDOMINAL SECTION

BY J H KELLOGG, M D
BATTLE CREEK MICH

Every ovariotomist who has had any considerable degree of experience has some time felt the need of an efficient means by which the abdominal cavity could be conveniently and completely drained of fluid after washing out, so as to avoid the necessity of inserting a drainage tube for this purpose in completing an operation "Always drain when you wash out," has long been an accepted maxim with many ovariotomists, and the fact that those conditions which require washing out are very generally such as render the drainage tube an absolute necessity, or at any rate a wise precaution against the extension of septic processes or a comforting assurance in relation to internal hemorrhage, will enable the drainage tube to hold its place in abdominal surgery, notwithstanding the cry raised against it by those who happen to have the good fortune to score a long succession of recoveries without its use Now and then, however, a case is encountered in which one hesitates to incur the risks of the drainage tube, balancing on the one hand the danger which may be incurred if the drainage tube is omitted and, on the other hand, the possible danger of hernia from difficulty to secure immediate union when a drainage tube has been *in situ* for twenty-four or forty eight hours, of wound infection through the difficulty of maintaining absolute asepsis in the care of the drainage tube, of possible intestinal fistula from pressure of the inner end of the tube against some portion of the intestinal canal, the nutritive supply of which has been weakened by the breaking up of long existing adhesions The fact that in cases in which washing out is required, more or less unusual risk is necessarily involved by reason of the grave character of the case, renders important the employment of every possible means of lessening the risk of any unfortunate complications which can possibly arise subsequent to the operation There are, certainly, several classes of cases in which if the surgeon could feel absolutely sure that every drop of fluid had been removed from the abdominal cavity, he would feel much happier to leave the case with the abdomen completely closed than with the most approved form of aseptic drainage tube in position There are three classes of these cases

1 Those in which the abdominal cavity has been washed out in consequence of a sudden rupture during the operation, of a thin-walled cyst, allowing the escape of colloid matter, which in itself is not toxic but is capable of furnishing a favorable nidus for the development of air germs, more or less of which must always find entrance to the abdominal cavity during the operation in spite of the most careful aseptic precautions, and which are sure to develop and form their characteristic toxins if fluid remains behind in the abdominal cavity It is true that often in such cases nature ultimately triumphs by absorbing the fluid, ptomaines and all, thus starving out the mischievous microbes, but the lowered vital resistance of the patient who has undergone a complicated and prolonged surgical operation sometimes prevents this happy conclusion of the matter

2 Cases of ascites due to fibroids of the uterus, papillomata of the uterus or appendages, or peritoneum, tuberculosis of the peritoneum or fibroid of the ovary This ascitic fluid, while innocuous so far as toxemia is concerned, before the opening of the abdominal cavity, after air germs have been admitted, so encourages the growth of microbes that local or general peritonitis may easily result, so that washing out is frequently justifiable, especially where there has been any escape of blood into the peritoneal cavity, resulting in general soiling of the intestines

3 In cases in which through the rupture of a pus sac, or some similar source of infection, deep portions of the peritoneal cavity have been soiled, notwithstanding the walling off of the intestines and greater portion of the intestinal cavity by sponges or napkins Every operator knows how readily such soiling may occur through the rupture of a firmly adherent pus tube, or a suppurating ovary, notwithstanding the most careful and dextrous manipulation in freeing the diseased parts from the surrounding tissues

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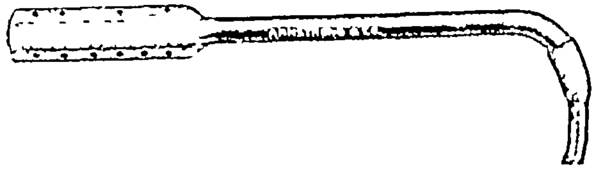
[4] Medical Standard

There are, perhaps, still other cases in which if the erator could feel that the peritoneal cavity had en thoroughly cleansed and was entirely free from id, he would leave his operating room or surgical ird in a much more contented state of mind than ter introducing a drainage tube, with the knowledge ich the experienced surgeon appreciates much bet r than the tyro, that eternal vigilance in watching e drainage tube is the price of even a moderate fety from the dangers which its use involves



After this perhaps somewhat lengthy introduction, desire to present a new device, by which, in cer ain cases at least, it is believed that the necessity or the use of the drainage tube may be obviated he device illustrated in the accompanying engrav ng consists of a metal tube about one centimeter in iameter, the lower end of which is inclosed in a age, which not only guards the tube laterally, but y extending a little beyond the lower end of the ube also protects its lower extremity The advan age of this construction will be readily appreciated he diameter of the cage is about one inch It thus reates a sort of well about the tube, in which the uid may collect The circumference of the well is even centimeters, as compared with three and one-alf centimeters for the tube The length of the ube is eight centimeters We thus have a drainage rea of fifty six centimeters, whereas in the use of n ordinary wash out tube there is often no drain age area at all created in consequence of the intes ine, omentum, or other loose tissue being drawn up against the end of the tube by the suction of the siphon or the evacuating syringe At best, the whole drainage surface of the tube without the cage can scarcely be reckoned as more than three-fourths of a square centimeter The protection of the lower end of the tube by the cage prevents obstruction, so that the fluid accumulates about the end of the tube, from the surrounding tissues By introducing the instrument to the various parts of the abdominal cavity, and especially to the most dependent places, the whole peritoneal cavity may be quickly and perfectly drained

I have tested this instrument in a number of cases and find it admirably suited for the purpose for which it was designed In a recent case it proved very useful, indeed, serving a new purpose by which it became more useful than I had anticipated The case was one in which I had removed a very large malignant kidney by the lumbar method I found it necessary to extend the opening anteriorly to enable me to get the mass out The tissues were so friable that just at the last moment, notwithstanding careful manipulation, a portion of the malignant growth gave way under pressure of the fingers, and a sudden gush of blood occurred which left present a great number of clots packed away in each of the little pockets which had been formed by the numerous nodules of the tumor The weakness of the patient rendered necessary the completion of the case at the earliest possible moment Recalling my caged tube, I thrust it into the cavity at once, and while the stream of water was flowing, carried it around to every part of the wound, and was surprised at the facility with which I was able to do this which was due, I am sure, to the large surface presented by the cage, which prevents its entanglement with surrounding tissue I was also able to pass it freely everywhere without fear that the end would be thrust through the thin septum which intervened between the cavity from which the kidney was removed and the peritoneal and pleural cavities After the wound had been sufficiently washed, I simply separated the tube from the fountain and dropped the end into a vessel upon the floor when the powerful suction of the siphon thus produced quickly emptied the whole cavity, drawing out through the tube such small clots as had not been previously lifted out by the force of the inflowing stream, and when I removed the tube I was pleased to find that the enormous cavity, which was nearly large enough to receive a man's head, had been completely obliterated, its walls being drawn up around the cage, in following the water as it receded Examination showed that the cavity was entirely free from clots, and it was only necessary to tuck in a strip of iodoform gauze, close the wound, and rapidly introduce a few sutures to complete the operation

In conclusion, it is but just that I should state that the idea of this instrument was suggested to me by Dr Eastman's well, which accomplishes much the same thing, although somewhat less convenient in use I must also thank Wm H Armstrong & Co, of Indianapolis, for the pains they have taken to construct the instrument according to the plans I have given them

A NEW CLUB FOOT WRENCH

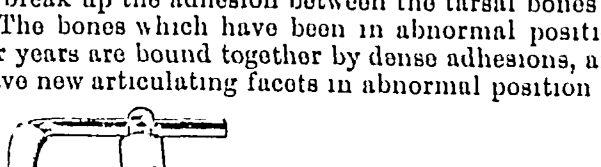
BY STEWART LEROY McCURDY, A M, M D

Professor Orthopedic Surgery Ohio Medical University Orthopedic Surgeon Protestant Hospital, Columbus Ohio Member American Orthopedic Association Lecturer Topographical Anatomy, Western Pennsylvania Medical College Pittsburg, Pa

PITTSBURG, PA

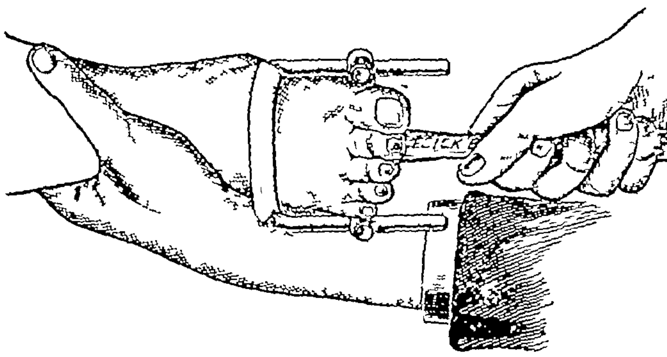
In the treatment of the various forms of talipes even after tenotomy of the tendo-Achilles, or the plantar fascia of other muscles and ligaments, or as individual case may require, great force is required to break up the adhesion between the tarsal bones

The bones which have been in abnormal position for years are bound together by dense adhesions, and have new articulating facets in abnormal position



These distorted relationships must be disturbed The hand of the average surgeon is not sufficiently powerful to bring the foot to a normal position It may be necessary to even fracture the bones to overcome the deformity and when it is found necessary to do so it should be done, for by the time treatment is completed the fracture will have had ample time to unite

The "T T" or "Thomas Twister" as introduced in this country by Dr Ridlon is not entirely satisfactory as a club foot wrench Phelps machine is all powerful but it is quite complicated, expensive and cumbersome Neither of the machines can be kept absolutely clean The wrench herewith illustrated is simple, can be kept aseptic and is not expensive While the handle is to one side of the foot in the "T T," the handle is in the center of this instrument, and there is great advantage given the operator in power without the annoyance of the wrench slipping around the foot The set screw shown allows an adjustment to any sized foot The bars as they come in contact with the skin are protected with rubber tubing, thus avoiding the liability of contusing the skin The wrench should be used after tenotomies have been done, for the forcible correction of the foot, in cases of talipes-equino varus, or equinus, and always done under an anesthetic It may be used in any variety of deformity of the foot, hand or other joints of the extremities



SOCIETY PROCEEDINGS

Louisville Academy of Medicine

The Academy met in their rooms, Monday evening, February 4, Dr T L McDermott, President, in the chair

Dr W B Pusey exhibited an intubation tube "introductor," a modification of O'Dwyer's It is a much lighter instrument, doing away with the spiral spring with which the tube is pushed off in the original introductor, thus making it much easier to clean It also has a notch in which the thread rests He also exhibited an extractor which he stated was in the experimental stage and had not been put to practical use yet

Dr Dugan showed a specimen removed from a child 6 years old, consisting of the trochanter and two inches of the shaft of the femur below The child had applied to a surgeon for hip joint disease, and a splint was applied with extension Under this treatment the patient gained in flesh until about six months ago, when she began to fail She was put on tonics and again improved for a time When seen by Dr Dugan there was a boggy mass outside the thigh, which had discharged in the region of Poupart's ligament on right side The thigh moved on a small axis, and a spontaneous fracture was suspected, especially as there was a history of a fall one year ago The detached trochanter was removed and two inches of the shaft which was in the condition of osteomyelitis The periosteum was detached but healthy

Dr Cheatham showed a calculus which he had removed from Wharton's duct Two years ago a calculus had discharged through an abscess This one was removed without difficulty after an incision, the forceps being introduced and the calculus grasped It was situated under the tongue and about one-fourth inch from the opening, and could be distinctly felt with the finger

The discussion upon diphtheria was then begun

Dr Koehler read a paper upon the

BACTERIOLOGIC DIAGNOSIS

He stated that the bacteriology of diphtheria was based upon the supposition that all cases in which the Loffler bacillus is found are true diphtheria, and if not found it is a pseudo diphtheria, which is not contagious or infectious The bacteriologic examination is a valuable hygienic measure The malignancy of the diphtheria bacillus is not based on theoretical grounds The description of the bacillus and its method of culture were then briefly explained The position of the bacteriologists is misunderstood They do not hold that typical cases of diphtheria need a bacteriologist to make the diagnosis Any competent physician can do that, but there are cases obscure in their nature which may be the source of disseminating the disease among many, in which a bacteriologic examination makes the course to be pursued perfectly clear In the series of cases examined by Drs Frank and Koehler, the staphylococcus was most frequently associated with the bacillus of diphtheria Of the fifty cases, sixteen were diagnosed as true diphtheria, three of which did not have the clinical symptoms of diphtheria. Five of these were fatal In the cases of pseudo-diphtheria there were no serious symptoms

Dr Koehler took the stand that all cases in which the bacillus is not found are non-infectious, but when found, if the clinical symptoms do not point to diphtheria, they must be treated as such, especially in regard to isolation, etc

Dr W E Grant read a paper upon his

EXPERIENCES WITH THE ANTITOXIN SERUM OF BEHRING

He thought that it was a mistake for a comparison to be made between the diphtheria antitoxin and Koch's tuberculin as the action of the two and their composition were so different The diphtheria antitoxin has only a local influence, neutralizing the product of the disease germ and for this reason he also used in conjunction with the antitoxin, local treatment as well as constitutional treatment as the latter was indicated, the antitoxin had been very prompt in its action Loffler's bacillus had been found in each case There had been no skin complications, no joint pains, no kidney troubles The injections were made in the back under the strictest antiseptic precautions The large needle was used, as the viscid character of the serum necessitated the large caliber Pain was no factor, but the twisting of the child may break the syringe or the needle, and a practical suggestion was made to have an assistant hold patient over his shoulder, holding his neck and legs, thus arching the back and holding him firm The local treatment consisted in the application of fifteen volume peroxid of hydrogen, ℥iv, and bichlorid of mercury 1 grain Constitutionally, whisky was given freely ℥iij daily, with tr chlorid of iron and chlorate of potassium, the latter given until the second day only Digitalis and strychnia as indicated He reported five cases in which the antitoxin had been used with recoveries in all, though one case was *in extremis* when the remedy was administered

Dr J M Ray read a paper upon the

LOCAL TREATMENT OF DIPHTHERIA

As the disease is primarily a local one and the poison is generated here, the treatment must be begun early and that point attacked The indications are 1, destroy the germs, 2, neutralize the toxic products, 3, limitation of extension of the membrane The prophylaxis is an important element Adenoids and enlarged tonsils should be removed in those exposed especially, all discharges in those with diphtheria must be destroyed and the clothing, etc, boiled or otherwise disinfected Local treatment necessarily has its limitations, a spoiled child by its struggling might be injured, or one much prostrated, made worse from loss of valuable vital force from poorly applied efforts at local treatment The application of powders, if bitter, destroys appetite by creating a bad taste in the mouth The situation and extent of the membrane and stage of the disease is a guide to the administration of local treatment If diphtheria of tonsils, pharynx or nose, a warm alkalin cleansing solution is best, a combination of sod bicarb, sod chlorid and boric acid, this used as a douche, and when warm is a painless application As a spray the best is the following

℞	Hydrarg bichlorid	gr i	06
	Glycerin		
	Peroxid hydrogen (Oakland) āā	℥ij	64

which if very irritating will be made neutral by adding salt or soda in small quantities Iron has a good effect, as it destroys and shrinks the membrane Powerful antiseptics are contra-indicated In the laryngeal cases the laryngologist rarely sees a case until intubation is indicated If seen early, ays are of no avail, we must use vapors or steam Tr iz co is pleasant and effective with ac carbolic and euca ptol The Brooklyn or Corbin treatment is very effectual laryngeal diphtheria Statistics were given of 358 in bations without this treatment with 25 per cent recovery, d 218 intubations in which the calomel sublimation treat ent was used with 39 8 per cent recovery A lamp used this treatment was shown which is used by Dr Dillon own

Dr D G Dabney spoke on the

VALUE OF THE LOCAL APPEARANCES IN DIPHTHERIA AND THE PROGNOSIS

Only the nasal and pharyngeal varieties were spoken of e progress in this disease was due to the advanced knowl ge of the pathology, treatment and the less severe epi mics In every suspicious case a bacteriologic examina on should be made, especially if the case is a mild one it even where the diagnosis of diphtheria is made bacte ologically it is oftentimes difficult to convince one's self at it is diphtheria because of the mildness of the form e more extensive the membrane, the more toxin is pro iced, and the more grave the prognosis If little mem rane there is generally not much trouble Cases of follic lar tonsillitis are less ominous at the beginning but prog osis should always be guarded The nasal form is always ore serious because of the number of absorbents and the kelihood of a laryngeal diphtheria supervening as a com lication Nasal bleeding is a bad omen, also the extension f the membrane deeply and rapidly Early enlargement f the glands of the neck and the presence of adenoids in luence the prognosis

Dr. W B Pusey read a short paper on

INTUBATION IN DIPHTHERIA

He gave the history of this treatment of diphtheria, and aid a tribute to O'Dwyer The advantages over trache-tomy are obvious, especially to any one who has seen an ntubation In some cases a secondary tracheotomy is nec-ssary but they are not many The tube is generally worn rom five to ten days, the average time being seven days as rule In one case he had had the tube was worn twenty-our days, being removed every five or six days, with re overy, another had coughed up the tube at the end of wenty four hours and re introduction was not necessary This is not always easy to do but in most cases it can be erformed without difficulty Under eighteen months the arts are so small and the tube is often longer than the ength from the epiglottis to the vault of the pharynx This nakes introduction and especially extraction of the tube lmost impossible Of the 147 cases in which he had in-tubated, 66 recovered, 44 0 per cent The ages ranged from months to 9½ years The introductor exhibited earlier n the evening he had used three years and it was very atisfactory

Dr T C Evans read a paper on the

CAUSE OF DEATH FOLLOWING DIPHTHERIA

The value of intubation is not underestimated, but so many cases occur in which intubation offers so little help, the operation is easily and quickly performed as a rule, and there is no blood, but the results are far from satisfactory The most frequent cause of death is broncho pneumonia due to or existing with the extension of the membrane downward, a nephritis, heart complications, sepsis or accidental causes, among which may be mentioned strangulation from pushing down the membrane prolonged efforts at introduction of the tube, and from the exhaustion supervening from the removal Northrup's statistics of 103 autopsies from diphtheria were quoted, in 72 cases there was extension of membrane downward The broncho pneumonia of diphtheria differs from the ordinary form, or that following the exanthemata, it generally runs a rapid and fatal course by the end of the second day, not often as late as the fourth day The picture of a case relieved by intubation is a marked one, the quiet peaceful sleep, lessened respiratory embarrassment In twenty four hours afterward there is a loss of appetite, the child is restless, there is an elevation of temperature and an increased pulse and respiratory rate, an examination of the chest generally shows râles over the base, there is little or no cough but a temperature from 103 to 105 degrees, shallow respiration, dilatation of alae nasi, with a rapid and feeble pulse There is an inspiration of mucus and saliva from the trachea, which is highly suggestive of the death rattle The pathologic condition present is an extension of the membrane all the way down, it may be discrete or confluent all through, differing lower down in the bronchi from that in the larynx, in the former place being easily detached It generally consists of a cast of the larger bronchi and in the smaller tubes the membrane with the exudate may plug up the bronchioles and beyond there will be collapsed vesicles or emphysematous lung There also exists a peri bronchial inflammation The question of importance is, Does intubation bear a causative relation to broncho pneumonia? All the conditions are present for an aspiration pneumonia, and as a rule the patients do not live after the second day

DISCUSSION

Dr W Cheatham objected to the use of the term pseudo-diphtheria because it is misleading The bacteriologic aspect of diphtheria is much underestimated Two cases were given in point to illustrate how an error which may prove fatal can be made in clinical diagnosis alone Dr Ray's paper in the light of the antitoxin is superfluous The alkalies do no good, as we know the bacillus grows better upon an acid medium If antitoxin is used no local treatment is needed unless a simple salt solution be used as a wash He had had five cases in which he had used the antitoxin personally and four cases in which it had been used under his observation and all recovered But this is not unusual here, especially if there is no larynx involvement All the bad results noted are swelled and painful joints and erythema, the important point in connection with the use of the antitoxin is its early use

Dr R C Gilbert—The tube is certainly a great stride forward, but we need some treatment for those intubated cases which die Much diphtheria goes unrecognized until diagnosed by the sequelæ hence the importance of an examination bacteriologically

Dr Weidner wished to know of Dr Cheatham why local treatment should not be used in conjunction with antitoxin We all know that the disease is primarily a local one that the toxic product is neutralized by the antitoxin, but the production of the toxin must be stopped by local treatment, by removal of the membrane He is a believer in the antitoxin, but the results are not as encouraging as he would wish The difference of epidemics, the difference in the sequelæ make the taking of statistics difficult

Dr H E Tuley reported a case of laryngeal diphtheria primary in which he had used the antitoxin Child 3½ years old seen five hours after first symptoms, there was a temperature of 103½ degrees, pulse 160, great obstruction to inspiration with recession of suprasternal and clavicular notches, and of the intercostal spaces, great prostration and cyanosis Intubation was suggested but deferred until antitoxin could be produced, 250 units were administered two hours later, with improvement in a short while of all the symptoms A second dose of 500 units was given on next morning, and child made a rapid recovery The first injection was only partially given as one half of the 500 units were lost by struggles of child, this illustrating the point made by Dr Grant in his paper

Dr Louis Frank emphasized the importance of the bacteriologic diagnosis A great many cases are perambulatory and disseminate the disease A diphtheria may be grafted on a follicular tonsillitis and examination should be made during the progress of the case

In the series of cases reported by Dr Koehler, in every case the pus producing organism (the streptococcus) was found These cause more trouble oftentimes than the bacillus, they cause sepsis and great depression—and this fact alone should induce us to use local treatment The antitoxin only neutralizes the toxin The bacteriologic examination should be made as a diagnostic agent, during the course of the disease and during the convalescence, and complete disinfection should follow every case He stated that diphtheritic laryngitis and membranous croup are identical

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Chicago Ophthalmological and Otological Society

Regular meeting, postponed one week, held at the Saratoga Hotel, Jan 15–18, 1895 Dr Hotz in chair There were twenty four members in attendance

The Treasurer's report showed a balance of $60, Jan 1 1895 This was ordered audited by a committee consisting of Drs Westcott and Starkey

The following officers were elected for the ensuing year

President, Dr F C Hotz, Vice President, Dr H Gradle, Secretary, Dr C P Pinckard Committee on Membership, Drs W H Wilder, E L Holmes, G F Fiske

Dr W E Gamble was elected a member

On motion, the Secretary was instructed to provide a ballot box

On Dr Gradle's motion, it was voted that the Society set apart certain evenings for discussion of stated topics, such topics to be announced at the preceding meeting

Dr Tilley reported three cases of asthenopia, relieved by crossed cylinders of equal strength Efforts had been made in each case to relieve the condition by spherical lenses, by cylinders and by combinations of both In every case there was a considerable amount of astigmatism as seen by the ophthalmometer, but in no case could the patient's vision be improved by astigmatic correction First case seen in September, 1894 Repeated trials were made with sphero-cylinders to relieve the asthenopia but without success On trying a —2 00 D axis 180° ⊃ —2 00 D axis 90°, the patient read 6 6 easily After repeating the test several times, glasses were ordered and patient has been comfortable since Second case was a lady about 45, had never seen with comfort, wearing +5 D With +2 50 axis 90° ⊃ +2 50 axis 180° vision rose from 6-18 to 6-6 These were worn a week with comfort, and then +4 50 axis 90° ⊃ +4 50 axis 180° was ordered for near She has been using tnem with comfort ever since Third case, vision was raised from 6-12 to 6 5 by —50 axis 90° ⊃ —50 axis 180°, and asthenopia relieved Samples of crossed cylinders, ground by F A Hardy & Co, were shown

Dr Holmes had had a similar experience with a cataract case

Dr Starkey had tried such combinations but not with much success He had seen cylinders with axes not at right angles give relief

Dr Gradle referred to articles by Manthuer and by Channing where cylinders crossed had given relief

Dr Hotz referred to the fact that in mixed astigmatism crossed cylinders were better than sphero cylinders The field is said to be flatter and there is less spherical aberration

Dr Tilley had seen a patient wearing +9 axis 90° combined with —8 axis 180°

Dr Williams showed Snellen's modification of Donder's instrument for measuring the color sense quantitatively The essential feature is that the illumination as well as the size of aperture can be accurately varied The trouble is that a different normal standard should be made for each color

Dr Hotz then spoke about the theory of the symmetric action of the oblique muscles in oblique astigmatism, so persistently advocated by Dr Savage He showed that Dr Savage has given us no proof of the existence of such action of the muscles Dr Hotz has never been able to find such action in any case of oblique astigmatism and denied that the supposed rotation of the eyeballs caused by this action would benefit binocular vision He further proved by demonstrations that oblique astigmatism does not cause obliquity of the retinal images and showed that the laws of physiologic optics do not sustain such doctrine The theory is based on false premises and wholly untenable

C P Pinckard, Secretary

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26, and 27, 1894

William J Herdman, M D, President

First Day, September 25, Morning Session

The meeting was called to order at 9 30 a m, by the President, Dr William J Herdman, of Ann Arbor, Mich, who said By virtue of the authority with which I am endowed, and by means of this emblem which I use for a gavel, I declare to you that the fourth annual meeting of the American Electro-Therapeutic Association is now convened We will hold a brief executive session in order to facilitate our future work The first order of business is the consideration of an amendment to Article III, of the Constitution, notice of which has been given for one year as required by the Constitution

"Every candidate for admission to the Association shall be required to present a paper to the Executive Council at least one month before the annual meeting" This is a requirement which is not unusual, and we think it is time we should at least consider the advisability of adopting such an amendment

Dr A H Goelet, of New York City—As the proposer of this amendment I will say that I suggested it because I believe it is the only way we can be sure of getting good men into the Association I hope very much that it will be passed It certainly will not exclude any desirable person from the Association

Dr Holford Walker, of Toronto—If this amendment takes effect does it apply to the members now to be voted upon?

The President—No, only for future candidates for membership

Dr R J Nunn, of Savannah—In view of the light attendance, I would move if it be in order, that the discussion be deferred until there are more persons present

The President—This matter has been brought so thoroughly before the members that I think if they were especially interested in the subject they would take pains to be present [Motion not pressed by Dr Nunn] A vote was then taken, and the amendment was carried, Dr Robert Newman, of New York City, alone voting in the negative,

The Secretary then read the list of those proposed by the Council for membership

Ordinary Fellows L A W Alleman, M D, 64 Montague Street, Brooklyn, N Y, W H White, M.D, 192 Dartmouth Street, Boston, Mass, C O Fairbank, M D, 25 West 45th Street, New York City, Robert M Slaughter, M D, Theological Seminary, Va, J Griffith Davis, M D, 200 West 14th Street, New York City, Robert Safford Newton, M D, 103 East 16th Street, New York City Caleb Brown, M D, Sac City, Iowa, Henry S Jewett, M D, Dayton, Ohio, David Inglis, M.D, Detroit, Mich, William M Hutchinson, M D, 205 Clinton Street, Brooklyn, N Y, Francis B Bishop, M D, 1913 I Street, Washington, D C, O B Douglass, M D, 123 East 36th Street, New York City

Associate Fellows Charles F Scott, M A I, M A T T, Pittsburg, Pa, R G Brown, E E, 158 Montague Street, Brooklyn, N Y

Honorary Fellows M le Docteur J Bergonie, 6 bis rue du Temple, *Bordeaux, France, Professor D'Arsonval*, Paris, France, Professor John W Langley, Case School of Science, Cleveland, Ohio, Professor Elihu Thomson, M A I, E E, Lynn, Mass

On motion of Dr Charles R Dickson, of Toronto, the Secretary was instructed to cast a ballot for the list of all names as read Seconded and carried

SCIENTIFIC SESSION

Dr William J Herdman, of Ann Arbor, Mich, delivered the President's address

THE FUNCTION OF THE AMERICAN ELECTRO THERAPEUTIC ASSOCIATION

A remarkable activity and interest seems to have been awakened in all that relates to electro-therapeutics since the organization of this Association a few short years ago It would be presumptuous for us to claim that this is in any considerable degree, the direct result of our efforts On the contrary, we may more rightly conclude that this Association is but the natural crystallization from a medium that was already saturated with thoughts, facts and efforts, having a relationship to electro therapeutics, but "without form and void" until its advent The more familiar we become with the history of the achievements of mankind, the more apparent it is that the plan of evolution is as applicable to the world of mind as to that of matter No advance is made that has not been long in preparation, and while it may appear to the thoughtless observer, that chance and accident determine results, to him who looks with deeper insight, the myriad workers are disclosed beneath the surface, to whose efforts we are indebted for the progress of to-day The formation of this Association four years ago was no accident

It came into being as the natural and necessary result of the requirements of the times Prophets had heralded its birth and wise men had long hoped and looked forward to its coming, and were prepared to bring the fruits of many years of their choicest thought and earnest labors to lay at its feet For centuries, knowledge has been accumulating in independent channels concerning the part which electricity plays in the universe of matter and of force

The chemist and the physicist have discovered, little by little, how important a factor it is in producing the phenomena which occupy their attention, while those who busy themselves with the phenomena of life, the biologist, the botanist and the physiologist are continually forced to recognize how indispensable is the presence of electricity in the building up and breaking down of vegetable and animal tissues, and in the conduct of all vital processes The physician also—who in his best estate must be a combination of all these specialists, and more—long before any of them, observed that electric force was in many ways intimately related to animal organization, and could be made to influence and modify its functions at will Notable among the leaders of thought, to whom history points, when tracing out the beginnings of the science of electricity, are such physicians as Gilbert Galvani and Duchenne whose remarkable labors in the field of physics and biology, may be said to have awakened the world to the importance of electric energy as a factor in determining the phenomena peculiar to each of these branches of modern science But starting from these early suggestions, the physicist and the physiologist, the biologist and the physician has each pursued his independent way while seeking to discover the part that electricity had to do, or might be made to do, within his special field of observation For a long time they seemed to have little in common, and but little intercourse between them was sought for or thought desirable Each has evolved his own apparatus, established his own methods of research, created his own nomenclature and terminology, promulgated his theories of electric action and accumulated his facts

Artificial barriers have thus sprung up between these lines of research, due to provincialisms in language and thought which are the necessary consequence of specialization But each has found that he has been dealing with a force or energy whose activities extend far beyond the limits of his narrow field, and eagerness to know more of its nature and capacities has tempted one and another to overstep the boundaries of his own domain to learn what his neighbor has discovered, and get some hint that may expand his vision, and lead to larger concepts of the truth

Man is a little cosmos and he who assumes to deal with human ailments, and attempts to set them right, must needs provide himself with every resource that will fit him for his task The physician, then who honestly sought in electricity an agent for the correction of some of the disordered states and functions of the body, could not, in the face of accumulated knowledge, longer hold aloof from his fellow worker engaged in like attempt, or from *any* who could bring testimony of value concerning the nature of the agent he employed In his desire to know all that was known, or could be known about this potent force, the electro therapeutist recognized it was time to bring these goods to a common storehouse

Thus was the American Electro-Therapeutic Association conceived by the wise men who first organized it, and placed it on the solid and comprehensive foundation where we find it to-day

And now may I be permitted to briefly enumerate certain of its important functions by way of confirming the declaration I have made, that it came in the natural course of evolution, a necessary result of the progress of the times Primarily it has a duty to perform in the improvement of electrical nomenclature and terminology Electricity has been found to have a universal relationship to the phenomena of matter, both organic and inorganic Those who study its manifestations, if they would interchange thought, and widen their conceptions of its action through conference, must understand each other when they meet and adopt a common language We must have a cosmopolitan language in electric science Words must mean the same to the electro therapeutist that they do to the physicist For the sake of simplicity, clearness of thought, and in the interests of progress, the electro therapeutist must be willing to lay aside his ‘galvanism” and ‘faradism” and speak of “direct” and induced” currents, while the physicist, the electrical engineer and the biologist on the other hand, must avoid the extremes of peculiarly technical expression while discussing questions in a congress of this character that have a wider scope than the limits of any one specialty This Association, wisely providing as it does for representation from other departments of electric research, affords a channel wherein the gradual erosion of these relics of former separation will naturally disappear in the efforts toward mutual understanding, and greater simplicity and uniformity in expression will result, with wider comprehension of the truth

We are thus led naturally, to refer to a second important function of this Association, the opportunity that it affords for the worker in pure science and the technologist to meet and compare results The fruits of the labor of the one, enlighten and stimulate the other The fact that the originators of this Association were prompt to recognize the value of this feature, is convincing proof that they were fitted for their mission and were “chosen vessels” Our membership is already strong in the department of electro-physics the groundwork of the science we are attempting to build up But in that intermediate stage between the play of forces in the inorganic world, and their part in the disordered vital processes we have much to learn before we can rationally and most efficiently adapt therapeutic methods to disease We are in much need of the investigations of biologists and physiologists, who following in the steps of Du Bois Reymond and D Arsonval will determine for us the characteristic of excitation” within normal limits for each and every form of electric energy that can be applied in therapeutics The addition of a few more experimental biologists and physiologists to our membership would result in mutual helpfulness and materially aid in fulfilling the purposes of this Association Again, an association of this character was needed to assist in fixing a uniform standard of electrical measurements The Congress of Electricians in council in Paris in 1881 passed a resolution asking that an uniform system of measurement of electric stimuli be introduced into physiology and therapeutics The advantages to be gained by such uniformity are self evident and it is an indispensable requisite to further progress At the time the Electric Congress made this suggestion there was no organization in existence national or international competent to represent the physiologists and electro therapeutists, and take the initiative in this matter Through the character of its membership, this Association is peculiarly fitted for this duty and it should not be lost sight of in our deliberations and discussions

Again, the times are ripe for the introduction of instruction in electro therapeutics into the regular curriculum of all of our medical colleges The medical educator can no longer afford to disregard the therapeutic value of a force that has been shown to influence animal organism and modify life processes in so many ways This Association has already done much to redeem the practice of electro-therapeutics from neglect and shown the folly of the contempt with which it has been regarded by many members of the medical profession The incontrovertible testimony and demonstrations that we have been able to furnish of its efficiency have already restored many a scoffer to his right mind and transformed him into a penitent disciple The tardy recognition on the part of medical teachers of the value of electro-therapeutics, is responsible for much of the misuse which electricity has received at the hands of the charlatan If the heir falls from his high estate, and fails to make good his birthright, there will always spring up false claimants and impostors seeking to lay hold of the neglected titles But there are other influences at work, aside from the testimony offered in the transactions of this Association, that will naturally aid in bringing medical educators to their senses in the matter of instruction in electro therapeutics Agencies are now at work all over this broad land that bid fair to intensify the mortification of the so called liberally educated physician because of his ignorance

Schools of electricity and simple methods of instruction in its principles and phenomena are now providing information concerning it in a form so readily assimilable that the newsboy and mechanic will soon be prepared to ridicule the crude notions of the medical graduates concerning the capacities of electric energy With the solid work done by this and kindred associations massed before it, and the light infantry methods for disseminating information to the laity on either flank, the medical college curriculum will be compelled to surrender to the demands of electro therapeutics Already we see symptoms of yielding all along the line When the capitulation finally comes, there will be work enough for us to do in defining the conditions by which alone instruction in electro-therapeutics can be made of scientific value and fruitful in good results It must be thorough in the fundamental work of physics and physiology, and must be taught by laboratory methods So you have each learned it by long and laborious effort So must the student learn it, but with perfected facilities, and with the results of your experience to guide him to fuller and more comprehensive acquisitions

And, finally, this Association has a duty to perform to the great body of medical practitioners throughout the civilized world, who look to gatherings like this for enlightenment and guidance Here, it is presumed, that whatever electricity is capable of doing to cure disease will be made known, the best methods will be revealed, the best appliances described With an open forum for the free expression of opinion by those who are not novices in the art, doubtful results and questionable statements should not go unchallenged Especially should the Association exclude from publication in its Transactions any views or theories that are manifestly unsound or misleading, since by so doing it gives to them the sanction of its authority

The reports of the scientific committees on the various forms of therapeutic appliances, appointed two years ago, and continued until now, can be made of great value to the medical profession In the opinion of your President, these committees should be made standing committees, and it should be expected of them that each make known to us, and so to the profession at large, through its annual report, the advance and improvements that have taken place during the year in therapeutic work by means of that class of appliances under its supervision These committees are comprehensive in the scope of work they cover, and by this plan the entire field of electro therapeutic appliances will receive careful review and presentation at our meetings, by those well qualified for the task and who, knowing in ample time what is expected of them, will not be hurried in its execution

If the Association thinks favorably of this proposal, I would suggest for the sake of greater efficiency that the title of the first of these committees, be changed from that of "Standard Coils" to that of "Induction Coils and Alternating Current Apparatus," since recent invention has added a class of apparatus to therapeutic facilities which has not been assigned to any one of these committees to investigate

It would certainly appear from this brief sketch of what I conceive to be a few of the functions of this Association that it was not born without a purpose It has, so far, given evidence that it is fully conscious of the weighty responsibilities that have devolved upon it and has laid its foundations broad and deep in its efforts to fulfill its mission and construct the edifice that will serve as a storehouse for truth in this department of science so intimately related to human welfare Let it be our determination never to lose sight of the greatness and grandeur of the work we have so auspiciously undertaken and each year give abundant evidence of the necessity for our existence

REPORTS OF COMMITTEES ON SCIENTIFIC QUESTIONS

The President—Many of us come here to learn what there is new in apparatus furnished for our work and if we know quite early the opinions of these committees, it will materially help us in securing such additional apparatus as will give us the best aid The object of these committees is distinctly educational The foundation of electro-therapeutics should be broad and deep The first foundation stone is electro physics, the second is electro-biology, by which we mean the physiologic response of electricity in all its forms in normal tissues, and the third foundation stone is rational therapeutics Our program is arranged as nearly as possible on this plan

REPORT OF COMMITTEE ON STANDARD COILS

was presented by **Dr William James Morton**, of New York City

The main functions of an induction coil are

(a) To cause muscular tissue to contract

(b) To produce a sensation of sedation While physiologic effects produced by different coils differ, they do not differ so much but that a single secondary coil will fulfill all the requirements of a standard coil For one and the same "long fine wire coil" will

(a) produce vigorous muscular contractions

(b) produce sedative effects

Therefore, for the sake of simplicity and uniformity this member of the committee recommends,

(a) A standard cell

(b) A standard primary winding of No 22 wire of ½ ohm resistance

(c) A vibrator of a new type furnishing a given musical note

(d) A rheostat in the primary circuit to govern the note agreed upon

(e) A secondary coil of No 32 wire, 500 meters in length

Dr A H Goelet, of New York City, also a member of the committee, said that Dr Morton was undoubtedly correct in his statement that the members of the committee could not agree He was arguing from the standpoint of the neurologist, and what was suitable for the neurologist was not suitable for the gynecologist A coil which would produce muscular contraction would not always produce sedation Again, it would produce muscular contraction in some gynecologic conditions, but would not do so in others For instance, in a sensitive pelvis or a condition resulting from inflammatory action, a fine wire current would produce painless muscular contraction and sedation, but if that same current is applied to a case of subinvolution of the uterus and vagina there would be absolutely no effect Under such circumstances the stimulating properties of the current must be increased by increasing its volume and this can not be done with a coil of one length At the first meeting of the Association, the speaker said he had suggested a combination of coils which he thought would answer the purpose, not only of the gynecologist and neurologist, but that of the general practitioner, and now after an experience of three years he was more than ever convinced that it would answer all these purposes He was furthermore convinced that a one coil apparatus was suitable only for the person working in one line of work On the external surface of the body where Dr Morton had done most of his work, the resistances are high and it is necessary to use a long wire coil In gynecologic cases the resistances are very low, particularly when both poles are placed in the vagina It was possible to produce most intense muscular contractions with a coarse and short wire in some cases, whereas with a long wire current, no effect whatever would result The speaker said that before he had suggested this combination of coils he had worked with a battery which he brought with him from Paris The coil he had estimated by measuring the resistance to contain about five hundred or six hundred yards of wire, yet he had found it entirely inadequate for his purpose It was this that had led him to suggest this combination of coils He did not mean to say that this particular faradic apparatus should be adopted, but on the other hand he thought every faradic apparatus should stand on its own merit Hence, he agreed with the President that this committee should be a standing committee charged with the duty of testing every induction apparatus put upon the market, and of reporting on their merits or demerits at each annual meeting

Dr Morton said he desired to say that his distinguished fellow-member of the committee had given him a very narrow channel of work which was by no means his sphere of labor with induction apparatus His remark had been based on an experience with all resistances, both high and low, neurologic and otherwise

Dr Goelet said that he would like to add to what he had said that the only objection to the combination he had suggested was its expense Therefore, he had the makers construct a battery with a coil of one size of wire (32) split up into different lengths which would answer for most ordinary purposes and was cheaper The cost is only one half that of the other apparatus It is a good cheap battery but its sphere of usefulness is limited

DISCUSSION

Dr G Betton Massey, of Philadelphia—said that his experience covered both fields of gynecology and neurology, and as a result of his experience he was inclined to indorse the views expressed by the second member of the committee He was somewhat in doubt whether a single coil might not cover all the indications of both special and general work There were very few such coils manufactured, and he was sure that one of five hundred yards would not be suitable It was not only a question of the length and size of the wire, but the nearness of the core to the whole of the coil which was important He had failed in one patient to get a high contracting power from any machine manufactured in New York, although he had searched among the instrument makers very carefully In the one matter of current volume this high wire was lacking, one must have coarse wire in close approximation with the core in order to get a high contracting power From such a core—one closely wound and having a moderate electro-motive force—we might get sedation also by introducing resistance into the extra current circuit, such as was obtained in the speaker's current controller He was not sure but that low electro-motive force with slight current was capable of exhibiting all the sedation qualities of the current with high electro-motive force

Dr. R J Nunn, of Savannah—said he would like to ask the committee if any researches had been made as to the frequency of the interruptions, and he would also like to say that there should be some standard by which the length of the coil should be measured The resistances in different individuals varied so greatly that while in one series of experiments a 500-yard coil might be sufficient, in another case a 1 000 yard coil might be required He had observed this in his own experience

Mr. Brown, of Brooklyn—said that this question of resistance had nothing whatever to do with the length of the wire or the efficiency of the coil The whole matter depended not upon the length of the wire but upon the number of turns To speak of a coil as having a certain resistance and a certain length secondary coil was to give no definite idea of its value With a given number of windings on the primary coil, and the second coil, the electro-motive force could be determined For applications to the surface of the body high electro motive force was wanted This was obtained by increasing the number of turns on the secondary coil If on the other hand, it was desired to use a bi polar electrode where the resistance was very low, very low electro-motive force would be required, but a very large quantity of current By increasing the number of turns on the secondary, the electro motive force was increased but in the same ratio the quantity or volume was decreased On the other hand, if short thick wire were used on the secondary coil, the resulting current would have a low electro motive force but large quantity A current of high electro motive force would shoot right through the body, but one of low pressure instead of shooting through the tissues would follow the blood vessels and would have a more diffused action It would therefore seem that the vital question was the number of turns of wire in a coil

Dr A Lapthorn Smith, of Montreal—said he quite agreed with Dr Goelet as to the necessity of having two distinct coils for the average work in gynecology It was to this branch alone that he wished to refer at the present time From the point of view of the gynecologist he thought two coils were required, and if he knew nothing about such a coil except what was derived from his own experience, he would say that a short coarse wire coil produced results, as interpreted by the patient, which were very different from those obtained from the long fine wire coils If the patient s head was covered up she could at once tell you by her sensations which form of coil was being employed, the coarse coil giving severe muscular contraction the fine wire first a tingling sensation and then a "numb feeling" extending over a greater or less area Some patients could even tell the operator the apparent size of this "numb" area It would seem reasonable, therefore, to believe that two coils were necessary There should be provided a short coarse wire coil with slow interruptions, and a long fine wire coil with very rapid interruptions He felt that there should be some improvement in devices for regulating the speed of the interruptions As a rule, the iron spring was too heavy for this purpose In one instance he had substituted for it a piece of ferrotype plate and had obtained a very high musical note

Mr Carty, of New York City—said that he could sympathize with Dr Morton's statement that we would not come to any agreement on induction coils for a number of years If medical practitioners knew just what kind of current they needed they could safely leave the matter of the kind of coil to the electrician He could say for the electrical engineers that a medical man could make no request for a current, whether to kill or to cure that the engineer could not supply The trouble was to get the medical practitioner to determine just what kind of a current was best suited to his purpose The physician knew he had obtained a favorable effect with a machine of a certain manufacture and of a certain kind, but he could not accurately describe the nature of that particular current At one of the previous meetings of the Association, some remarks had been made about recording tracings of the current If such apparatus were perfected and put into general use he felt confident that this great difficulty of which he had spoken would soon disappear

In answer to a question by the President as to the difficulties in introducing this graphic method more generally, Mr Carty said there was no difficulty in the electrical engineer making such observations, but he thought it would be difficult to provide a cheap and portable apparatus which could be used satisfactorily by medical men

Dr Morton, in closing the discussion, said he had purposely omitted many interesting points because he felt that they should be discussed for a while longer by the members of the committee He did not know what Mr Brown meant by "volume" He would suppose that 500 meters of a given wire with a given primary coil and given rate of vibration would give in every instance the same graphic record It was well known that electro-motive force was governed by the number of turns of the wire

As to measurements, there had been some machine recently invented, particularly in Germany, for measuring the alternating and periodical current He felt that Mr Carty had touched the keynote of the whole future work of the committee Monsieur D'Arsonval has attempted this, and had done some admirable work in determining the physical form of the waves of a continuous current, and of the alternating current This observer considered the form of the current to be the best guide in determining its physiologic effect Dr Kellogg, of this Association, had already shown before the Association some very beautiful tracings of the currents which he had made In defense of his own remark that he thought one secondary coil, all the other conditions being equal in each case, would answer all purposes, he would say that he recognized that a powerful muscular contraction was desirable, and also that a sedative effect was needed, a sort of static effect In his opinion, with any ordinary sized wire and a length of upward of five hundred yards, all the muscular contractions which any patient could stand could be obtained He had seen the most powerful muscular contractions produced by such apparatus and under varying resistance In addition to the muscular contractions he had also obtained a sedative effect He thought muscular contractions and sedative effect did not need to be considered as two distinct entities, they could be obtained at one and the same time by the apparatus described If it were desirable to obliterate the sedative effect, then he could conceive that a different coil might be needed—one that would hurt the patient—but this he did not think was what was wanted The whole question seemed to him to be one of over-refinement in technique

REPORT OF COMMITTEE ON METERS

The requirements of a thoroughly good meter, which the committee has considered in examining the various instruments submitted to it, are practically those of last year, and in the descriptions of the various instruments which appeared in the committee's last report, these various requirements are taken up and dwelt upon individually in connection with each make of instrument

The committee has had before it this year, meters of the following make Weston, Kennelly, Jerome Kidder, Queen & Co , Hirschmann (of Germany), Waite & Bartlett, McIntosh, Vetter and Flemming The McIntosh and Kidder instruments were not among those tested last year

The Kidder is an instrument handsomely mounted in a nickel-plated case Its scale is clear and convenient It is of low resistance and is made either for horizontal or vertical use It is of a type similar to the Weston and Kennelly, and is practically unaffected by outside magnetism As the makers say, the suspension system is very delicate and where a quick reading is desired it becomes necessary to put on a "drag" which renders the instrument practically "dead beat" In the instrument on test there were two scales, from 0 to 75 and 0 to 300, the change from one scale to the other is made by means of a plug which can be readily introduced By putting on the 'drag" the instrument can be transported without fear of injury The makers say in a recent letter that they contemplate in the near future arranging their instruments so as to give a 250 milliampère scale as a maximum, thus giving broader lines of division

The McIntosh[1] instrument is one for which much is claimed by the manufacturers, the McIntosh Battery and Optical Company, of Chicago, but although the instrument is very prettily put together and makes a very nice appearance, the sample submitted to us has been found to be far from accurate By reference to the table of tests accompanying this report, it will be noticed that through all the readings the McIntosh instrument lags behind, until the point was reached where the Weston standard read 500 milliampères, while the McIntosh showed but 250 In writing to the committee, this Company wishes it to be understood that they have never claimed their instrument was in any true sense to be considered as a standard instrument of precision, but that "gauged by correct standards it approximates very closely absolute reliability"

It was hoped that it might be possible to have a Gaiffe and a D'Arsonval instrument among the others tested, but none were available for this purpose without incurring the expense of purchasing one

Since the last annual meeting of the Association the Galvano-Faradic Company have been working on their meter with a view to improving it, as they have appreciated from the first report of this committee that there must be room for such improvement, and as they are desirous of offering to the profession only good apparatus have been doing their best to make their milliampère meter a success It would seem that they have been progressing very well in this direction, but owing to a press of other work have not been able to finish up an instrument in time for the test

The Weston instrument is in practically the same form as last year, as in the Kennelly, though the scale of the latter has been considerably improved The strictures which were last year placed upon the Waite & Bartlett, Flemming and Vetter meters may be repeated this year, although the scale of the Vetter instrument tested is better than the one before the committee last year

THE TEST

The current for the comparative test of the meters was obtained from the street circuit of the Edison Illuminating Company, and for convenience it was passed through a Kennelly adapted as a means of regulating the flow to the meters for the readings up to and including 200 milliampères after which a large box of variable resistance was substituted as a regulator The fourteen meters on test were all placed in series, those having large permanent magnets being in one group and those of the galvanometer type being in another group at a considerable distance from the first In this way the supersensitive instruments were entirely withdrawn from the baneful influences of stray magnetic lines of force from abroad It even became necessary to take off and put away the watches of the committee, as well as any pieces of steel and iron which they might have about their persons

As was done last year, the Weston instruments were used as a standard of comparison during the recent tests, and it would seem that this was fully justified by the absolute correspondence within perceptible limits of the readings from the different Weston instruments, as well as from the recognized position held by the Weston meter for general accuracy But to avoid any possible doubt as to the accuracy of these standards, they were after the completion of the test, checked by Prof F B Crocker, of the School of Mines, Columbia College, with a standard Thomson Centiampère Balance, the results showing very close approximations to the readings of that standard Their use for this purpose was abundantly justified

The following table shows the readings of the instruments with certain corrections made necessary by the fact that in the case of the Kennelly, the Kidder and Queen instruments, the needles were slightly off zero to begin with, due possibly to jars received in transportation

Make of Instrument	Scale	MILLIAMPÈRES READ IN TEST															
		1½	**2**	**3**	**4**	**5**	**8**	**10**	**25**	**50**	**75**	**100**	**150**	**200**	**250**	**300**	**500**
Weston	* 0 to 10																
	" 150		2	3	4	5	8	10									
	* " 500								25	50	75	100	150				
Kennelly	† 0 to 100	1½	2	3	4	5	8	10	25	50	75	100					
	" 200						8	10	25	49½	72½	98½	132½	178¼			
	" 200						8	10	24½	50	75	99½	142½	187½			
	" 500								23	49	74	100	150	200	250	300	499
Kidder	* 0 to 75	1½	2	3	4	5	8	10	25¼	50¼	75½						
	* " 300											101	157½	211	260½	309½	
Queen	* 0 to 25	1½	2	2¾	3¾	4¾	5	7¾	23¾								
	* " 250									47	78	92	188	190	240		
	" 250									37	50	67	95	153	165		
Hirschmann	* 0 to 5	1¼	1¾	2½	3⅓	4¼											
	* " 50						7	8	20	40							
	* " 250										62	82	125	162	220		
Waite & Bartlett	0 to 250	1½	1¾	2½	3⅓	4	7	8½	22	43	68 •	90	135	190	250		
McIntosh	* 0 to 20	1	1½	2¼	2¾	3¾	5¾	6¾	17								
	* " 1000									30	40	60	80	110	140	160	250
Vetter	* 0 to 50	1½	1 8	2¾	3¾	4½	7½	9¼	23	45							
	* " 500										72	90¾	138	185	240	280	460
Flemming	* 0 to 10	1½	1 8	2¾	3¾	4½	7½	0¼									
	* " 100								23	47	72	92					
	* " 1000												150	200	260	315	520

Note —The scales of each make of meter marked with a star (*) are on the same instrument, it is thus shown that there were two Westons and one Flemming instrument in the test, etc

† This Kennelly meter has been in constant use a year without re standardizing

We consider that in all these cases there was no inaccuracy indicated by the erroneous starting point beyond accidental bending of the needles, and that for these reasons they were entitled to these corrections In this table, the Weston scales which were used as standards during the various portions of the test are indicated by heavy type It might also be said that the Kennelly meter marked with a dagger, is one which has been in use without re calibration for over a year In this connection it might be stated as the opinion of the committee that it would be advisable for any one using milliampère meters, of whatever make to have them re calibrated at least once a year

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[1] See Note No 2

As the meters were of different maximum capacities it became necessary to drop some of them out as the readings progressed into the higher ranges, and when maximum reading of any instrument was reached the comparative temperature of that instrument was observed There was *no apparent* over heating observed in any of those on test, and this is noteworthy because most of the meters were subjected to a gradually increasing current for about three hours

The matter of the graduation of the scale was very carefully considered by your committee and they are disposed to believe that it would be better to have a double scale in the more expensive instruments There is no doubt that it would be best for oculists and aurists who use small current strength, say from a fraction of a milliampere to three four, ten or twenty five to have a separate meter with a proper special scale, while a meter constructed so as to read from 1 to 25 and then in five milliamperes up to the highest number on the scale would be more desirable for general use Among the Weston milliampère meters is one which combines a fine scale from 0 to 10 graduated in tenths of a milliampere, and a second scale from 0 to 500 This is applicable to the needs of all practitioners

Your committee has also considered the question of the advisability of a meter reading as high as 500, and are of the opinion that it is not of general use and the cases are exceptional where higher reading than 100 is required In hydro-electric methods and in the Inglis Parsons treatment of cancer, a scale reading as high as 500 is desirable, but in average medical work there is no need of a higher reading than 250, while even that is of doubtful necessity It is not necessary, in order to determine whether the current is flowing in the right direction through a meter, that the meter should be so arranged as to read from a scale on both sides of the zero mark In fact, a meter whose zero is in the center of the scale sacrifices clearness and range for an imaginary convenience provided that an opportunity is given for the needle to move backward to a certain extent with a wrong direction of current flow This opportunity almost invariably exists

POSITION OF METER

A meter should be so placed in an office as to avoid the influence of any magnetic field caused by masses of metal or circuits carrying light or power currents Such field may sometimes have its center outside the apartment in which the instrument is located When placed upon a table, cabinet or horizontal switchboard, a meter is liable to be affected by vibrations, particularly accidental jars to the entire board The horizontal position is always the best, because a meter so placed is not affected by gravity, while in the use of a vertical meter, unless perfectly counterbalanced, gravity will sometimes retard their operations and sometimes assist them The easel position of the Queen meter is a very convenient one to the operator for reading Your committee would recommend, however, that meters should be suspended from the wall by elastic cushions or bearings, and where such suspension makes the act of reading inconvenient, it may sometimes be assisted by placing a mirror on the wall behind the instrument

MAGNETIC SHIELD

The matter of a magnetic shield or encasement to prevent the effects of an exterior magnetic field such as results, for example, from an operating motor near at hand, has been considered by your committee It is not deemed necessary either in the Weston or Kennelly meters It is not advisable to use these meters close to a strong magnet, not only on account of stray magnetic leakage influence, but because it is possible (though difficult) to alter the results secured by their permanent magnets, by an accidental powerful field in their vicinity Ordinary care however, is all that is necessary with instruments thus constructed Other instruments such as the Waite & Bartlett, McIntosh, Flemming, Vetter, etc, would be strongly affected by a similar disturbing influence of less power, and can not be expected to be controlled by ordinary care for, as has been indicated heretofore in this report, it was necessary to lay aside watches, keys, pocket-knives, etc, before coming near any of these instruments

VOLT METERS

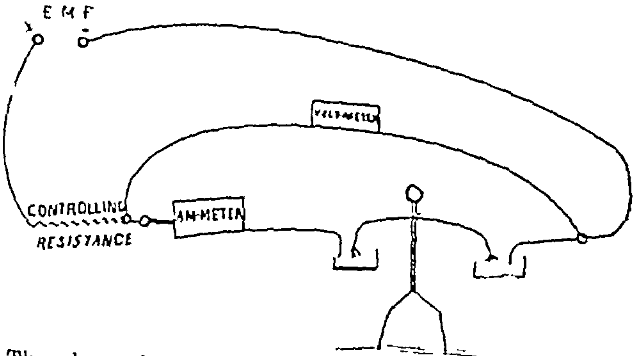
While there was no actual test made of volt meters, yet your committee would report in favor of the Weston volt meter or the one manufactured by Queen The Weston volt meter used in certain experiments, which will be detailed, is generally recognized by electrical engineers as being an excellent instrument

WATT METERS

Your committee have considered the advisability of securing a watt meter which will directly indicate the amount of energy expended in a given treatment The matter was looked into with considerable care and it was decided that to get a watt meter of sufficient delicacy, considerable time and expense would be required Owing to the fact that the amount of energy used by physicians in their applications is so very small such an instrument would necessarily be extremely delicate and therefore expensive All the requirements can for the present be met by the combined use of an am meter and a volt meter, which instruments possess independent and separate usefulness, where as a watt meter as ordinarily constructed could only be of special value for its own indications It was, therefore, decided to consider the use of a volt meter and am meter together, the connections being made in such a manner as to place the volt meter in shunt with the patient, plus the am meter of negligible resistance and thus measure the fall of potential between the electrodes By multiplying the amperage and the volts, the number of watts of power expended in a circuit between the volt meter terminals will be obtained Given the number of watts, the energy in electrical horse power may be readily obtained by dividing by 746

It is desirable that there should be the best electrical contact at all binding posts and shunt switches, especially where, in a test for watts, the volt meter spans the am-meter as well as the subject operated upon, otherwise the amount of power being expended upon the individual will not be correctly indicated Where a meter is permanently mounted upon a cabinet or switch board, the binding posts should be provided with lock-nuts or equivalent devices to prevent impairment of contact

In this connection the following observations may prove of interest The volt meter used in all these experiments was the Weston



The above diagram represents a volt meter in the circuit so as to get a reading both of volts and amperes or fraction thereof By multiplying volts by amperes the number of watts is obtained, while dividing this product by 746, the number of watts to an E H P, the E H P used is determined

H E C Fibroid tumor with exudates on right side A hydro electric application given with the vaginal douche electrode, two and one half quarts saline solution, an Apostoli pad over the abdomen, forty two square inches in area Pressure 53 volts, c s 060 of an ampère The voltage multiplied by the ampèrage gave 3 1 watts This divided by the number of watts in E H P, namely 746, gave 004 of an E H P, the power or the rate of energy The resistance was 8,830 ohms

M E S Goitre Indifferent electrode, hands in gallon jar of salt water, active negative, eighteen square inches in area over growth Pressure, 56 75 volts, c s 020 of an ampère, giving the power or the rate of expanding energy at 1 1 + watts or 001 + E H P The resistance in this instance was 2 837 5 ohms

M A Facial Acne Electric douche to face, pressure 57 volts, hands in saline solution, c s 010 of an ampère, the rate of expanding energy 5 watts or 0007 of an E H P, resistance 5,700 ohms

M A Vaginal electric douche, saline, negative, indifferent electrode, abdominal pad forty-two square inches, pressure 52 volts, c s 050 of an ampère, watts 2 6 or 003 E H P, resistance 1,040 ohms

M E S Hemorrhoids Treatment, cupric electrolysis, indifferent electrode abdominal pad thirty six square inches, pressure 56 volts, c s 018 of an ampère, watts 1 + or 001 E H P Resistance 3,111 ohms

M E S Vaginal electric douche, negative, pressure 55 volts, c s 040 ampère, 2 2 watts or 003 E H P Resistance 1 375 ohms

H E N Vaginal electric douche negative, pressure 55 volts, c s 050 of an ampere, 2 7 + watts, or 003 + E H P Resistance 1 100 ohms Condition, chronic vaginitis, with eczema of the vulva

E C M Chronic peritonitis, sacro abdominal (per cutaneous) application, electrode thirty six, and forty-two square inches in area, pressure 90 volts, c s 025 of an ampere, 2 25 watts or 003 E H P, R 3600 ohms

P H Gonorrheal vaginitis, vaginal electric douche cataphoric Ca_2 SO_4, 6 grs to qt, 3 qts, indifferent electrode, abdominal pad 42 square inches, negative, pressure 110 volts, c.s 008, ampere 880 watts, R 13,750 ohms

These experiments give in recognized units of measurement the rate of expanding energy in given treatments They do not cover a very wide range of applications, owing to the fact that in very busy office life one has not always the time to take the measurements and make mathematical calculations However, these observations are going on from time to time, and are intended in time to cover as wide a range of applications as can be made in the treatment of disease by the constant current

NOTE —The following is the result of the examination of the two Weston instruments, used as standards, by Prof F B Crocker, of the School of Mines, Columbia College, with a standard Thomson Centiampère Balance

No 204 Thomson Balance	No 2272 Milliampère meter	No 2131 Milliampère meter
25 45 milliampères	25	25
50 "	50	52
75 15 "	75	76 5
100 25 "	100	100 5
151 "	150	151
204 2 "		200
249 8 "		250
298 6 "		300
99 6 "		500

NOTE No 2 —Before submitting this report, it is with pleasure we note that the McIntosh Manufacturing Company have about ready for the market a new and improved milliampère meter which promises to be an exceedingly valuable instrument It was not completed in time for the test this year, but we trust that it will be placed in the hands of the committee during the year

RECAPITULATION OF SUGGESTIONS

Meters should

1 Be re calibrated once a year

2 Be constructed to indicate fractions of milliampères on one scale to a predetermined point, and higher currents on a second

3 Be (ordinarily) required to indicate only up to 100 milliampères

4 Be placed in a horizontal position

5 Be flexibly suspended from solid support

6 Be re-inforced by a mirror to assist in reading the scale

7 Be provided with magnetic shields when not made with strong permanent magnets

8 Be capable of indicating either direction of the current, but measuring it in only one direction

9 Be furnished with reliable binding posts and shunt switches

Signed, MARGARET A CLEAVES, M D,
Chairman
W J JENKS, E E
EMIL HEUEL M D

DISCUSSION

DR MORTON said that as there was frequent occasion to reverse the current he could not understand what was meant by recommending meters which would register in only one direction

THE PRESIDENT said he considered this kind of work an extremely important part of the labors of the Association Within the last three years he had found considerable benefit from using extremely small continuous currents—*those* registering one-tenth of a milliampère or less From this it would seem that the scale should be even more finely divided *than that* recommended by the committee He was satisfied *that there was important use for constant currents, if not* for other currents, of very low ampèrage continued for a *long time*

DR MORTON said that he thought it would be desirable in the future to report upon what provision could be made for measuring the current more *minutely*

DR DICKSON said that last year he had spoken about the beneficial effects he had observed from currents of one-tenth *to one-fifth of a milliampère In his work at the Toronto* General Hospital he met many specialists and he found that the oculists were especially interested in electro-therapeutic work In some of the ophthalmologic cases one-half a milliampère would not be tolerated, hence the importance of improving the scale in the direction just suggested The report of the committee was a most excellent one

DR MASSEY said he wished to take exception to the slighting remarks made as to the possible value of very heavy currents, although he appreciated the value and importance of the work of the committee He thought we occasionally needed meters which would register 500 milliampères or more, particularly in cases of cancer or of highly vascular tumors in cavities contiguous to the surface of the body Under anesthesia, one might easily use from five hundred to one thousand milliampères of current in that way, and so increase the surgical possibilities in this direction

DR CLEAVES, in closing the discussion, said that the objection to meters registering both ways was that it interfered with the clearness of the scale Some of those who had spoken, seemed to have lost sight of the fact that the committee had recommended that the meters should read as minutely as one tenth of a milliampère The remarks made by *Dr Dickson* on this subject at the last annual meeting did not refer to the use of such a current, but to whether the instrument could be depended upon for such minute measurements The value of heavy currents was not lost sight of and readings of 500 advised for special work

The Association then adjourned at 12 30 A M

(*To be continued*)

Ligature of the External Iliac Artery —At the *Société de Chirurgie* of Paris, held in December, 1894, M Chauvel, reported the case of an Arab child who had been wounded in the thigh by a pocket knife It immediately resulted in a spurting hemorrhage, which spontaneously ceased, but recommenced after six hours On admission to the hospital a compress bandage was applied and left in place for eight hours When it was removed the clot was thrown out and the hemorrhage was again active M Nicot decided to ligate the external iliac, which was done without chloroform, by cocainization Cure by second intention resulted On the thirteenth day there was secondary hemorrhage which was arrested by direct compression Some days afterward there was gangrene of the foot which was self limited and the child recovered The reporter was of opinion that it would have been preferable to seek for the divided ends of the vessel and tie them in the original wound —*Revue de Chirurgie*, Jan 10, 1895

Adulterating Olive Oil with Castor Oil —Olive oil is found to be frequently adulterated with castor oil It is even claimed that the olive, especially if it has become strong smelling or rancid, is improved by the addition As much as 20 per cent of the adulterant may be added without detection "An Italian expert," says *Food and Sanitation*, "claims its presence may be discovered by taking 10 cc of the suspected oil, mixing it with half its volume of hydrochloric acid, and then shaking them together in a test glass graduated to 0 1 cc If any castor oil is present the liquid will separate, on standing, into three well defined layers, the lowest of which will be the hydrochloric acid, the top the olive, and the middle the castor oil This test may also be used with sesame, cotton seed, colza, earthnut and linseed oils"—*Pharmaceutical Era*

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM, IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

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SATURDAY FEBRUARY 23 1895

THE PREVENTION OF BLINDNESS

The census of 1880 as compared with the census of 1870 showed an apparent increase in the number of blind, very much greater than the increase in population Attention was called to this by a paper read before the American Ophthalmological Society and a committee was appointed to examine into the cause of blindness in the United States In the report of this committee it appears that in this country, as in Europe, at least 15 if not 20 per cent of all the children in blind asylums are there because of purulent conjunctivitis of childhood, and stress was also laid upon the fact already well known that when these cases receive proper attention in the very early stages of the disease the number of unfortunate cases is reduced to a mere fraction of 1 per cent. Evidently, then, it is simply a question as to how these children can be brought promptly to the attention of some one who is supposed to be qualified to treat them, or if he fails to do so can be made responsible to the parents In other words, the natural inference was the advisability of legislation which should require nurses and midwives to report these cases at as early a stage as possible to some legally qualified practitioner There were, naturally, many other causes of blindness referred to by that committee, and various suggestions made in regard to those forms, but we wish to invite attention at present to the blindness caused by ophthalmia neonatorum When these and similar facts were formally presented to the Legislature of the State of New York by another committee of medical men, a bill was unanimously passed known as chapter 41 of the law of 1890 and read as follows

AN ACT FOR THE PREVENTION OF BLINDNESS

SECTION 1 —Should any midwife or nurse having charge of an infant in this State, notice that one or both eyes of such infant are inflamed or reddened at any time within two weeks after its birth, it shall be the duty of such midwife or nurse so having charge of such infant, to report the fact in writing, within six hours, to the health officer or some legally qualified practitioner of medicine of the city, town or district, in which the parents of the infant reside

SEC 2 —Any failure to comply with the provision of this Act shall be punishable by a fine not to exceed one hundred dollars, *or imprisonment not to exceed six months* or both

SEC 3 —This Act shall take effect on the first of September, eighteen hundred and ninety

Slight changes were made in this law subsequently, the wording being retained practically the same but for the sake of convenience and for greater efficiency it was incorporated into the penal code Following the example of New York, almost exactly the same law was passed by Maine in 1891 and by Rhode Island and Minnesota in 1892

Meanwhile, at the Milwaukee meeting of the AMERICAN MEDICAL ASSOCIATION a paper was read by one of the members of the Ophthalmological Section calling attention to the reasons for such legislation and showing what had been accomplished in that direction The discussion which followed the paper resulted in the unanimous indorsement of the advantages of such legislation and the Section reported a resolution appointing a committee of five whose duty it should be " to urge in all parts of the country, by personal application, by circulars to physicians and legislators, and by blank forms of a desirable law, such legislation as will tend to lessen the blindness caused by this disease " The committee consisted of DR LUCIEN HOWE, DR HENRY GRADLE, DR GEORGE M GOULD, DR JAMES L THOMPSON, and DR G C SAVAGE Last year a similar law was passed in Maryland and Ohio, and this year bills have been either presented or soon will be presented in the Legislatures of several other States

The general plan in each of the States has been about the same At the suggestion of this central committee, appointed by the AMERICAN MEDICAL ASSOCIATION, one or two leading ophthalmologists in the different States have been asked to read papers at the meeting of their State medical societies, calling attention to the dangers of ophthalmia neonatorum when the cases are neglected, and the excellent results obtained when these cases are seen in the early stages, and citing the increased cost to the State for indigent blind who are in that pitiable condition, usually in consequence of the negligence of midwives and nurses Following these papers, resolutions have been adopted by the State medical societies, strongly indorsing some form of legislation to abate this evil and appointing a committee to take charge of the matter This committee has then gone before the Committee on Public Health in the two branches of the Legislature and presented the reasons for the existence of such a law

In Pennsylvania an excellent paper was read by Dr George M Gould at the last meeting of the State medical society A series of strong resolutions were adopted by the society indorsing this law A committee now has the subject in charge and will have it presented at an early date In Vermont such an act has been read twice and referred to the joint Special Committee on Public Health In Michigan and Illinois, bills have been introduced in the Legislature at the instance of the State medical societies, and in the latter State the interest of the governor has been enlisted in securing its passage In California, the bill goes before the Legislature with the unanimous indorsement of the leading medical societies of the State In New Jersey a bill has been drawn up and will be presented to the Legislature at this session In New Hampshire it is before the Legislature In Indiana and Connecticut it is before the Committee on Public Health

There are other States in which the question of such legislation is being agitated or advised, and it is earnestly hoped that before many years such a law will exist in every State of our glorious Union

THE CARE OF THE INEBRIATE

This question comes more and more frequently to every general practitioner in the country Within a comparatively recent period it has become a well recognized fact that the inebriate is diseased and curable by medical means and measures The class of cases curable and the exact remedies and appliances for this purpose are not so well defined, and like all other new questions is open to some differences of opinion

The appeals of friends and relatives of patients, and even of patients themselves, to the physician for help are touching and very urgent In some vague, half-defined way the average medical man may recognize the possibility of help from drugs, but the uncertainties of medicines and his doubtful knowledge turn him to ethical and moral lines of treatment He gives placebos and severe lectures to the patient, threats, warnings, appeals, and accepts pledges and promises He may go beyond this and administer secretly, medicines to produce nausea, or narcotics to check the morbid impulses In one case a disgust for spirits is expected to give power to abstain in the future, in the other, checking the drink craze, is supposed to destroy it The latter is always disastrous in turning the drink craze into other and even more incurable channels Many good physicians, in despair of other remedies, have turned to morphin by the needle, and secured temporary relief, only to find that, later, morphinism was developed Chloral, cocain, and many other drug habits have begun in this way The not infrequent failure of the family physician to successfully treat these cases, has opened wide the door for quacks and quack remedies

The wild wave of gold cure specifics was only possible through the failure of physicians to recognize the physical nature of inebriety, and failure to give these cases the care and attention they deserve Some few physicians seemed infected with the charlatanism of the secret gold cure remedies, and believed the loud boasts of supposed cured victims was sound evidence of success Such persons ignore all facts of the physiologic action of certain drugs, and psychologic laws and forces, and manifest credulity that reflects sadly on their scientific training While the injuries and diseases from the use of spirits and drugs require a considerable part of the physician's time and work, he has most unfortunately not studied the physical side of inebriety, but been content with the half moral and half physical theories of reformers and non-experts As a result he is unable largely to do anything or even to advise soundly as a scientific man Theories of inebriety and alcohol popularly held to be true, do not bear the tests of accurate inquiry, and opinions that are without any bases of facts are repeated from side to side as if beyond question, when in reality they are simply delusions The few men who have made a study of this problem in many circles are still called cranks and extremists, while the positive dogmatist, who claims full and explicit knowledge on all phases of this subject is the medical hero of the hour An ever increasing number of thoughtful men in the profession begin to realize that this drink problem has a very important medical side which when carefully studied, will enable the physician to answer the despairing cry "What can we do with the inebriate?"

The physical study of the inebriate (whose drink craze is a symptom), of distinct conditions and causes that can be known and prevented, is the only true road to successful treatment The physician must realize that appeals to him for help, come from organic suffering, the same as in other diseases It is not damaged morals and ethics of conduct, it is a cry for relief from a morbid impulse to suicide, and to escape the injury from alcoholic poisoning If each case is studied as one of disease, the remedies and means of relief will be apparent Medical colleges should take up this subject and give its advanced students some instruction along this line, for inebriates are often among the first persons they will be called to treat

Physicians who have studied the inebriate along lines of exact science, are agreed in asserting that the successful treatment of the inebriate should be begun by the family physician at home That the physician should be able to prevent and cure the inebriate in the early stages, and in the near future this will be done with as much certainty as other diseases are now treated This is confirmed by the experience of practical men in individual cases everywhere It seems a reflection on medical skill that these armies of inebriates should grow up and go down to destruction in every town and city of the country, with no help from medical art The few small asylums where these cases are treated, are practically lost and insignificant in the scope and limits of their work

The boasting charlatan occupies the field with his specifics, and the wilder dogmatists and reformers, are struggling to reach this disease by the pledge, the prayer, and the promise Evidently the answer to the appeal for help, addressed to physicians everywhere must come from a great revolution of public sentiment in regard to the inebriate and his malady In the meantime, physicians should study these cases more earnestly, and seek to know the causes and means for relief that are only possible by accurate study Then this question can be answered, and a new field of cure and prevention will be opened

THE INSPECTOR GENERAL OF THE ARMY ON HOSPITAL CORPS DRILL

The report of the Inspector General of the Army has the following with regard to the Hospital Corps

"The instruction given in the Hospital Corps has continued throughout the year and in some instances with results approaching perfection The company of the Hospital Corps at Fort Riley has had under instruction 100 men, 53 of whom have been transferred for duty to other stations At date of inspection the company was partially armed with carbines, revolvers and knives, and, as reported, was devoting three quarters of an hour daily to carbine drill

Admitting without question the very great necessity to an army of a Hospital Corps, it is not easy to understand why its members should be instructed in the military use of any such weapon or in what way such instruction prepares a recruit for the duties of dressing injuries or nursing the sick On the other hand, there is a manifest impropriety in giving arms of any description to a soldier of the Red Cross, whose duties do not demand it and whose neutrality in time of war renders it wholly unnecessary

Another view of this subject is presented by the facts If it be found necessary to the proficiency of the Medical Department that its members be trained as combatants, then a return to the old system under which those who now compose the Hospital Corps were recruited would probably subserve the best interests of that department Only soldiers who have proved their aptitude and efficiency for the duties were transferred as a rule, and having already been instructed in the use of arms, there was no encroachment on their time or that of medical officers for that purpose, and no temptation to turn from the legitimate duties of the Medical Department to those which are wisely intrusted to other hands"

It may be added that the "Drill Regulations of the Hospital Corps" provides for no rifle or carbine drill Rifles are mentioned only in connection with the extemporization of litters, and each detachment of the Hospital Corps is furnished with a few rifles for use in practicing such extemporizations The criticisms of the Inspector General would be relevant only if these drills were general or called for by War Department orders Local commanders are not prohibited from putting carbines into the hands of raw men for purposes of drill No doubt they may, if they please, make use of this arm just as they may make use of any article of the outfit of the gymnasium

CLEVER MALINGERING

The Chicago daily papers have recently contained an account of the operations of a family of sharpers who have victimized railroad corporations Their plan of operations consisted in having a member of the family feign paralysis, which it was asserted had been brought about by a fall while on a railroad train or street car In almost all of these cases a convenient banana peel was the predisposing cause while a jolt or sudden start of the conveyance furnished the exciting factor An investigation of an attempt to obtain money from the Chicago, Rock Island & Pacific Railroad led to an exposure of their numerous efforts in Chicago and Boston to extort money from railroad and street car companies

It seems that one member of the family had succeeded in so far overcoming natural sensibility that she would allow pins to be thrust into her skin without flinching The usual claim was a complete motor and sensory paralysis of the lower extremities

The following is a copy of one report made by a physician of Boston

"FANNIE FREEMAN has double vision One object appears as two at times, and her vision is blurred She has photobia or dread of light, is unable to move her limbs in bed Examination shows scrapes along the spine Tenderness to pressure and percussion over the lumbar and dorsal vertebræ Can't stand, walk, or sit unless completely supported, and then *can only be held in the half sitting and half reclining position*, all the time evidencing great agony Reaction of pupils normal Tongue clean, pulse 90 at the beginning of examination and 80 at the end Apparent anesthesia of the lower limbs When I stuck pins into her legs and feet and touched them with my hands she declared she could not feel any sensation, and I couldn't surprise her into painful expression Her feet felt cold to me, knee-jerk normal It was evidently painful for her to be moved, either to be got up or to be turned from her back to her side in bed She sees no gain or improvement in her condition, and thinks at times she is going to die"

We are at a loss to understand how so transparent a fraud could have so long escaped detection Had she chosen to confine her operations to "traumatic neurosis" or "spinal concussion," one could readily understand how deception could have succeeded A total paralysis, sensory and motor, of both lower extremities could mean only a lesion of the cord and this would soon have been followed by atrophy and changes in the electrical reactions A complete motor paralysis of both lower extremities without palpable atrophy, associated with a normal knee jerk, is certainly so rare that it ought at once to excite remark

REDUCED FEES AND INCREASED RISKS

A prominent life insurance company has notified its medical examiners that their fees will be reduced from five dollars to three dollars for examinations The following, quoted from a circular letter, is the argument advanced—presumably in all seriousness—for the reduction "The considerations which have led up to this conclusion are that the company has in the past placed in your hands a considerable amount of business, and, should you accept the proposed terms, it is its intention to continue to give you as much business, if not more, than heretofore The company feels that it stands in the same relation toward you that a patient stands in toward his attending physician A physician charges five dollars a visit for occasional visits where he would hardly feel warranted in charging so large a fee for regular medical service extending over a considerable length of time In the latter case it certainly is the uniform custom among physicians in making out their bills to make considerable reductions from the fee for a single visit on account of the number of those visits"

The letter then goes on to say "Of course we do not know whether you will feel warranted in accepting this reduced fee and in continuing to serve us as our examiner" It occurs to the Journal that the doubt which should exercise the company's mind is whether its policy holders—who are, in effect, its stockholders—"will feel warranted in accepting" the kind of risks which the three dollar fee will be apt to pass The examination of the present policy holders involves the exercise of professional skill and ability, not too highly paid for even by a five dollar fee How will they relish seeing the value of their policies and their prospective profits impaired by the accession of lives admitted on a scrutiny 40 per cent less thorough—measured by the fee—than that to which they were subjected?

It is highly probable that, as our cotemporary, the *American Practitioner and News*, pithily puts it "The public will look askance at any one of the would-be leading companies that will in any way cheapen or weaken its most vital safeguard"

THE DEPARTMENT OF PUBLIC HEALTH

Senate bill No 1840, introduced by Senator Gray, of Delaware, is the bill recommended by the Committee of the American Medical Association It antagonizes none of the Public Services and there is no reason why there should be any opposition to the bill The Marine-Hospital Service will ultimately be greatly strengthened by this bill, and the other medical branches of the Government, under the terms of the proposed Act will have frequent opportunity for consultation and appropriate work A supplemental bill recasting the relations of the Marine-Hospital Service, the only Public Health Service now in existence, will undoubtedly be required, for with the creation of the new Public Health Department, there will be every reason why that excellent Service should become its executive arm There no longer exists any reason why the financial department of the Government should assume direction of a Service that has worked out the problems of national quarantine, sanitary inspection of vessels, and is now operating its great laboratory in the direct interest of the public health

The lateness of the session may possibly prevent action this year, but without doubt the American Medical Association will finally succeed in passing this great public measure

THE STREETS OF NEW YORK CITY

The experience of New York City in the matter of street cleaning has well demonstrated the great advantage to the public, of securing competent and thoroughly qualified men for the conduct of technical departments of municipal governments

The reform Mayor of New York, Mr Strong, could have selected no one better qualified for the street cleaning department, than that well-known sanitary engineer, Geo E Waring, Jr, formerly of Newport, Rhode Island, and now of New York City, an active member of the American Public Health Association

Already in the business portions of the down town district, the paving stones have reappeared, the gutters have been cleared, and Broadway presents a clean and tidy appearance quite to Bowling Green

We are assured that the adjacent districts will soon feel the refreshing effects of the Colonel's scrubbers as soon as possible In the meantime those of us who have occasion to watch the vagaries of our unfortunate municipalities will rejoice that our leading city, has had the good sense to place a man at the head of one of its most important sanitary bureaus, who is not only a "scholar in politics," as the current phrase goes, but is at the same time a competent sanitary engineer

CORRESPONDENCE

Leprosy and its Diagnosis

PHILADELPHIA, Feb 9, 1895

To the Editor—As one who for many years has studied leprosy, and who, moreover, has had opportunity of observing many cases in this and in other countries, I write this note with the view of calling forth additional information upon the "Report of two Cases of Leprosy in native born Citizens of Ohio," by Dr J G McDougal, of New Lexington, Ohio, in this JOURNAL, Feb 2, 1895 The history and symptoms are in several ways remarkable, so much so that one familiar with leprosy might be inclined to question the correctness of the diagnosis without further facts and proofs being given It is not the intention of the writer to criticise the report at present It may, however, be stated that it is very unusual for leprosy to develop at the age of "fifteen months" It would, moreover, seem probable that the affection of the "nose and upper lip" from which the father at one time suffered was not lepra, but may have been syphilis There seems to have been not even a suspicion that the father had at any time symptoms resembling those of lepra, nor that these children ever came in contact with a known leper

Under these circumstances all other allied or similar diseases, such as the several non specific forms of peripheral neuritis, Raynaud's disease, and the analgia, Morvan's disease, syringomyelia syphilis, sclerodactylia and tuberculosis should be excluded by differential diagnosis before these two cases (sisters) are entitled to be classed among the examples of indigenous leprosy of the United States It is admitted that there is much to be said in favor of the view that these cases are actually lepra, but the history and the symptoms are so unusual that the reader of the paper who may be interested in that disease is disposed to ask for more facts, and especially for the points in differential diagnosis, together with the results of bacteriologic examination for the bacillus lepræ

Cases of leprosy occurring in infants and children who have been born in this country, and who have not been in any way exposed to known lepers, are so extremely rare as to be worthy of the fullest possible account of them that can be given Indeed, it may be stated that the writer knows of no such cases heretofore recorded

As illustrating rare or undescribed forms of disease simulating lepra, the case figured and reported by E von During, of Constantinople, in the "International Atlas of Rare Skin Diseases," plate xxxi, may be referred to The patient was a boy 6 years old, the morbid process being characterized by a kind of myxomatous swelling of the first and second phalanges of the fingers and complete absorption of the terminal phalanx All ten fingers were involved The terminal phalanges of the two middle fingers of the left index finger, and the fourth finger of the left hand were completely absorbed A sclerosed ring encircled the middle of the second phalanx of the right index finger The bones of the other fingers were thickened and the soft parts extremely indurated The nails on the absorbed phalanges had shrunk to small and thickened plates The reporter of this case named the disease "sclerodactylia annularis ainhumides" Lepra was excluded

Respectfully,

LOUIS A DUHRING, M D

The Practice of Medicine Act in Congress

DR S C BUSEY TO THE COMMISSIONERS

WASHINGTON D C, February, 1895

Honorable Commissioners of the District of Columbia

Gentlemen —I am instructed by the Committee on Legislation of the Medical Society of the District of Columbia, to communicate to your Honorable Board the objections of said committee to several provisions of the bill, known as the "Commissioners' Bill,' and entitled, "A bill to regulate the practice of medicine and surgery, to license physicians and surgeons, and to punish persons violating the provisions thereof in the District of Columbia"

The committee of the Medical Society suggests that Sec 1 be so amended that not more than two of the Board of Medical Supervisors shall be appointed from either of the three systems of medicine recognized in the bill, so that it will be impossible for either of these systems of medicine to acquire a majority of said Board of Medical Supervisors

The committee recommends the omission of all of Sec 3 after the word "surgery" in line 30 This clause provides for the licensing of "any applicant intending to practice in the District of Columbia any system of medicine or treatment other than the regular or homeopathic or eclectic system," and is objectionable not only because it is an invitation to the horde of charlatans, pretenders and impostors driven from the States by the enforcement of medical practice laws, which prevent the prosecution of their nefarious and mercenary impositions, to settle in this District, now the common rendezvous of such disreputable classes, but it is a direct and positive insult to every intelligent and educated physician, in that it ignores all and every method and system of preliminary and technical education, and is in direct conflict with the reforms and elevated standard of medical education which the profession is putting in active operation throughout the country There is now in this city one system claiming to have a charter under the provision of the general incorporation law, with one emeritus professor, and one graduate who signed the certificate of his own graduation Under the clause referred to, unlike systems but similar institutions may be chartered at the will of any drug or medicine fiend, and be entitled to a license to practice the science of medicine in this District

The same clause of Sec 3 lines 15 to 17, compels such applicant, when licensed, to insert "in any advertisement he may cause to be displayed, the designation of the system of medicine or treatment employed by him for the cure or relief of disease" Thus, not only is the fraud to be licensed, but when licensed, he is required to commit a fraud upon the credulous public by advertising to do that which he knows he can not do

The third objection to the "Commissioners' Bill" refers to the omission of any provision prohibiting "publicly advertising ability to treat and cure diseases," as is usual in medical practice laws Such a prohibition would banish from this District every such disreputable pretender, and protect this community from that class of frauds and impostors driven from the States and territories It is idle to claim that such result can be accomplished by the enforcement of the rules, regulations and codes of medical ethics, when only such persons can be made amenable to such rules and codes as may have acquired membership in ethical organizations The advertising charlatan has no code but that of fraud and criminal deception

The Medical Society of the District of Columbia is willing to accept any one of the forty medical practice laws now in force in the States and territories of the country, except the Alabama law, to which it objects because of a provision somewhat similar to the objectionable clause in Sec 3, of the "Commissioners' Bill," but which is more securely guarded because of the supervision of the State medical society

The committee, therefore, requests the Board of Commissioners to so modify the bill S 2685, known as the "Commissioners' Bill," that it may give to it its unqualified support

I have the honor to be your obedient servant,

SAMUEL C BUSEY, M D,

Chairman of Committee of the Medical Society of the District of Columbia

The Ophthalmoscope in Kidney Disease

WABASH, IND, Feb 19, 1895

To the Editor —"Advanced kidney disease is often first discovered by ophthalmoscopic examination"

Illustrating the truth of the above item taken from a recent medical journal, I wish to report a case which came under my observation recently

C M was sent to me by Dr K to be fitted with glasses He had been complaining of failing vision for about four weeks in right eye and for two weeks in left eye Vision was equal to counting fingers at ten feet No improvement with glasses Ophthalmoscopic examination showed extensive patches of albuminuric retinitis in both eyes I then questioned him about his general health, which he said was very good Had not been sick and felt as well as usual No trouble with kidneys as far as he knew I sent him back to his family physician, Dr K , with a letter, telling him what I had found, and asking him to make a careful examination of the patient's urine for albumen, and to put him on treatment In a few days I received a letter from the Doctor stating that he had found C M 's urine very heavily loaded with albumen Fifteen days after the first examination I again saw the patient, and he was still feeling about the same Vision in right eye was equal to counting fingers at five feet, and in left eye to counting fingers at ten feet At this time I am satisfied he would have been accepted as a good risk by any life insurance company that did not require an examination of the urine, and many good companies do not He took his bed shortly after this, developing in a short time all the well marked symptoms of Bright's disease, and died in five weeks from the last examination

OREN ONEAL, M D

Archiv fur Verdauungs Krankheiten

BALTIMORE, MD , Feb 12, 1895

To the Editor —The rise of a specialty in medicine is marked by the appearance of journals especially devoted to it We are glad to inform you, that the new specialty of "Diseases of the Digestive Organs" is about to have its own publication—the *Archiv für Verdauungs Krankheiten* which will appear in April It will be published in Berlin, Germany, by S Karger The editor is Dr I Boas, the well-known author of a work on "*Diseases of the Stomach*" He will be assisted by specialists in Germany and other countries The *Archiv* will contain original articles, besides reviews and abstracts of recent literature, and will embrace diseases of the stomach, intestine, liver, pancreas and peritoneum constitutional diseases and dietetics Those interested may communicate with the editor or the publisher

Yours, etc ,
JULIUS FRIEDENWALD, M D

To Military and Naval Medical Officers

To the Editor —The undersigned, members of the "Committee on Litter," appointed by the Association of Military Surgeons of the United States, to report at the approaching annual session a desirable form of military litter for the comfortable, safe and expeditious transportation of the sick and wounded, solicit from medical officers of the National Services and the National Guard of the several States, suggestions, plans or models of such an appliance, to be delivered to either of them at their respective addresses, on or before the first of April, 1895

ALBERT L GIHON, Medical Director, U S Navy,
U S Naval Hospital, Washington, D C
JOHN VAN R HOFF, Major and Surgeon, U S Army
Governor's Island, Harbor of New York
MILES STANDISH, Capt and Asst Surgeon, M V M ,
200 Dartmouth Street, Boston, Mass

The Surgical Section

HARTFORD, CONN , Feb 9, 1895

To the Editor —Will you kindly give me the name and address of the Secretary of the Surgical Section of the AMERICAN MEDICAL ASSOCIATION? Yours truly,

M M JOHNSON, M D

ANSWER —Joseph Ransohoff, M D , 296 Walnut Street, Cincinnati, is Chairman, and Reginald H Sayre, M D , 285 Fifth Avenue, New York City, is Secretary We have printed these names each week since the San Francisco meeting

BOOK NOTICES

A Manual of Diagnostic Neurology for General Practitioners and Students By ALEXANDER B SHAW, M D Illustrated St Louis, Mo 1894

This little work of 114 pages makes a decidedly favorable impression It is compact, and at the same time we note that there are no serious omissions in the description of the diagnostic relations of the nervous system The arrangement of the book is excellent and accentuates the diagnosis of nervous diseases in a manner which will bring them home to the student and fix them in mind in a much better way than they can be obtained from the general treatises on nervous diseases The first chapter deals with objective symptoms, such as aspect and expression, motor symptoms, ataxia, titubation, rotatory and choreic movements, tremor, and spasm in all its varieties The reflexes are briefly considered, and we note that the writer does not regard the absence of them as always an evidence of a pathologic condition In this we would heartily agree with him It is the loss and not the absence of the reflexes which determine the value of this sign in the pathology of nervous diseases

The diagram on page 10, showing the reflex centers of the spinal cord, will materially facilitate the regional diagnosis of cord lesions Page 25 has an excellent diagram illustrating the varied effects of lesions of the motor and sensory paths from the cortex to the periphery These ought to prove of great value to the beginner in nervous pathology It is a simplification of the more complicated diagrams which are found in German works and is much easier of comprehension than most of the diagrams of this kind On page 26 a case of myotonic spasm is reported, which is an exceedingly interesting one, and illustrates well the diagnostic relations of this condition We doubt, however, the propriety of putting into a work of this kind a purely controversial matter such as that concerning this case

Throughout the work the author has given us some excellent tables of the differential diagnosis of certain lesions of the nervous system We would especially call attention to the table relating to the differential diagnosis of paralysis from cortical cerebral lesions and paralysis from non cortical cerebral lesions This, and the table showing the points of resemblance and difference between spinal apoplexy, hemato myelitis, hemorrhage into spinal membranes, Landry's paralysis, acute poliomyelitis, painful paraplegia and acute central myelitis and multiple neuritis, are of especial value Another table giving the differential diagnosis of monoplegia of central, spinal and peripheral origin, is one that will prove useful

The writer says that tactile sensibility may be roughly estimated by touching the part to be examined by the finger or camel's hair pencil, and he gives the preference in testing sensation to the esthesiometer In our judgment this instrument is of comparatively little value in neurologic work Better results can be achieved by the use of a small pledget of cotton in determining tactile sensibility and its acuteness, and then by such simple means as varying weights, coins or other well known objects placed in contact with the skin These, combined with the use of a pin, will achieve much more accurate results and in less time than they can be reached with the use of the esthesiometer

The chapters which relate to the diagnostic relations of the optic nerves and the testing of vision, as well as that which deal with aphasia, are exceedingly compact, well written, and contain about all that is of practical importance in the diagnosis of nervous diseases

On the whole the work is well written, the illustrations are well selected, but many of them are very poorly printed hile this mars the general appearance of the work, it does ot detract from its usefulness We think that a short chap r on electrical diagnosis would have materially added to e completeness of the work without greatly increasing its ze

PUBLIC HEALTH

Rapid Production of the Diphtheria Antitoxin —That section f the report of the Director of the British Institute of Pre entive Medicine which deals with the diphtheria antitoxin London *Lancet*, February 2) is somewhat disappointing in at it contains no reference to Dr E Klein's experiments, ade for the Medical Department of the English Local Gov rnment Board—having for their object a study of the prep ration and nature of the diphtheria antitoxin Last De ember Dr Klein claimed to have succeeded in reducing the me necessary for the production of the serum to less than ne-fifth that usually consumed, and explained his method s follows By a few injections of the attenuated living acilli (the attenuation is due to the age of the culture) long with their toxin into the horse, this animal is fur ished with a certain degree of resistance Next, large uantities of living diphtheria bacilli (minus their toxin) aken from the surface of solid cultures of gradually in reasing virulence, are repeatedly injected subcutaneously, o as to allow the bacilli to grow and multiply and to roduce gradually within the body of the animal, as is the ase in the natural order of things the toxin and, ulti nately, the antitoxin Every such injection is followed by a emporary reaction, a rise of temperature varying between 6 degrees and 1 8 degrees C and a local tumor, but there s no suppuration at the seat of inoculation As soon as ne such tumor has disappeared a new injection is made, s stated above, with large quantities of living bacilli craped from the surface of solid media (agar and gelatin) By the third week the animal will bear the scrapings from he surface of two whole agar cultures of virulent char cter In the case of one horse, by this method antitoxic erum was obtained in twenty three days, in another horse n twenty-six days from the date of first injection If, after he first bleeding of the horse, it be again twice or thrice injected with virulent living bacilli (taken from the surface cultures) the further serum obtained from such horse possesses even increased antitoxic power The antitoxic power of the serum in the twenty three and the twenty six days' horses was tested on guinea pigs, and it was found that one part of serum was capable of protecting from 20,000 to 40,000 grams body weight of guinea pig against the living bacilli and toxin (not merely against pure toxin), considerably more than a fatal dose of living bacilli having been injected Dr Klein says this serum has been used in cases of diphtheria on the human subject—some of them very severe cases It was injected in doses of from 5 c c to 8 or 10 c c, and in severe cases the injection was repeated within twenty four hours The result was highly satisfactory In some severe cases it was particularly striking, the further spread of membrane being entirely arrested, and rapid loosening and discharge of the existing membrane being also a conspicuous feature

More than sufficient time has elapsed since Dr Klein made his method public in which other producers could have tested it, and it is not a little singular considering Dr Klein's high scientific standing, that the Institute should have ignored it Dr Ohlmacher, Director of the Laboratories of Pathology and Bacteriology of the Medical Department of the University of Wooster, at Cleveland, has succeeded in rendering a horse proof against diphtheria in forty-six days, but his method has not yet been made public and it is not known whether he has followed Dr Klein in any degree

Decline of Smallpox —The steady diminution of the smallpox incidence continues—except in St Louis, where an Associated Press dispatch of the 20th says there were seventy two cases in the Quarantine Hospital at noon of the 19th, ten new cases were reported on that day, and the dispatch adds, "it is thought this number will be greatly increased when full returns are received to night" Nothing official has been received by the JOURNAL concerning this outbreak, information of which is in the nature of a surprise In Chicago there were eighty four cases remaining under treatment on the 20th inst, twenty new cases occurred during the week, eleven localities were under surveillance on that day as against sixty one one month previous All known cases are in the Isolation Hospital During the week ended February 18, there were seven new cases and two deaths in Milwaukee and two cases at other points in the State At that date there were thirty six cases remaining under treatment in the city—fourteen in the hospitals and twenty two in homes, as against forty-three under treatment one week previous—sixteen in hospitals and twenty seven in homes Isolated cases continue to occur in other parts of the country and an occasional steamer is quarantined on arrival on account of the disease, but the smallpox "epidemic" of 1894-95 seems to be substantially at an end This speedy termination of what threatened a year since to be a serious calamity is fairly attributable to more general and effective vaccination than was possible fifteen or twenty years since, and this has been accomplished to a very large extent through the support of the courts which have uniformly sustained the health authorities in enforcing vaccination The latest instance is that of the Supreme Court of Brooklyn which, on the 16th inst handed down a decision, in which the Court says ' The prevention of smallpox is of such paramount importance as to justify all reasonable means for its accomplishment The propriety and wisdom of the course pursued by the [Brooklyn] Board in vaccination is beyond criticism Its acts have all been within the lines of statutory authority and they have been discreet and in evident good faith in the presence of an impending pestilential danger"

Water Supply for Boston —The Massachusetts State Board of Health, which has had under consideration the question of the water supply for Boston and suburbs, recommends, as a result of its investigations, that the supply be taken from the Nashua River above Clinton It is proposed to build a dam which will raise the water of this stream 107 feet above the surface of the mill pond at Lancaster Mills, thus constructing a reservoir which will have a capacity of 63,000,000,000 gallons It is claimed that the merit of this plan will be its permanent solution of the water problem of the district Should this supply be inadequate, it will be entirely feasible at a small expense to reach the valleys of the Ware and Swift Rivers, which with accessions from the Westfield and Deerfield Rivers, will furnish a supply of the best water for a municipality larger than any now found in the world The Board rejected the only other plans which seemed worthy of critical examination, namely A supply from Lake Winnipiseogee, and one from the Merrimac River above Lowell The lake supply was abandoned because the Board thinks it doubtful if the State of New Hampshire would allow the quantity needed to be taken from the lake, to say nothing of the expense of $34,000,000 for a conduit, and a further sum for damages for diversion of the water The supply from the Merrimac River would need filtering, and this would involve an investment of $17,400,000 besides annual cost of maintenance It is estimated that the total first cost of the Nashua River supply would be about $19,000,000 and the ultimate expenditure for the full development of the supply from this source, about $25,000,000 for an average of 173,000,000 gallons daily

Cows, Oysters and Typhoid —As a result of his recent investigations, Dr Thorne Thorne is convinced that just as unboiled milk mixed with typhoid-infected water may distribute typhoid fever among its consumers, so also the liquid of uncooked oysters may be the means of conveying typhoid fever, if water infected with typhoid fever is imprisoned between the valves of the oyster He does not believe, however, that either the cow or the oyster can elaborate typhoid fever from sewage, but it is quite possible that oysters may mechanically convey typhoid fever, just as milk mixed with infected water may be the medium for distributing this disease He thinks that in both cases it is more than probable that the danger is much exaggerated, to which it may be added that a similar exaggeration of the danger of conveying typhoid fever through the medium of sewage-irrigated vegetables is also more than probable—the results of bacteriologic examination of such vegetables, including "sallet stuff," water cress, lettuce, etc, being thus far entirely negative

Malarial Fever in Italy—The Italian Bureau of Statistics has recently issued a map of the distribution of malaria in Italy, showing the different degrees of mortality by various tints From it the *Journal d'Hygiene* learns that in the years 1890-91-92 there were 49,407 deaths, or an average of 54 per 100,000 inhabitants yearly Along the Mediterranean intense endemic centers of malaria are shown in the Grossetano, in the Pontine marshes, in the Salernitaho and in the environs of Pestum Deaths from malaria are rapidly decreasing in Rome, in 1881 there were 650 deaths from this cause, in 1882, 505, in 1892, 189, in 1893, 189 Malaria is more intense in the Roman Campagna and on the Adriatic coast A strongly colored zone is shown on the map, beginning at the promontory of Gargano, descending by Molene and ending at Iomo The disease is still strongly epidemic in Sicily and Sardinia

Cholera Precautions—Owing to the reappearance of Asiatic cholera in the suburbs of Constantinople, the Direzione della Pubblica Sanita of Italy has increased the stringency of its regulations requiring the medical visitation and disinfection of all vessels coming from the Black Sea, from the colonial French ports, from those of Russia and of Roumania on the Danube, from the Sea of Marmora from the Ægean and from the North African littoral (excluding Tripolitania) and from Brazil The Argentine government has formally recognized the existence of cholera in the Confederacy

A Yellow Fever Congress—It is proposed to hold a Congress on yellow fever during the Cotton States and International Exposition at Atlanta The plan proposed is that the leading physicians of the city invite the leading physicians of the South Atlantic and Gulf cities, with a view of securing concert of action on quarantine measures and methods of dealing with the disease

SOCIETY NEWS

The St Louis Medical Society held a regular meeting February 9

The Lehigh Valley Medical Society held a regular meeting February 12

The Lackawanna County Medical Society held a meeting February 12

The Atlantic County Medical Society held its annual meeting at Atlantic City February 6 The following officers were elected President, H C James, Vice-President, Philip Marvel, Secretary, E L Reed

The New York State Medical Society concluded its session February 7 The following officers were elected for the ensuing year President, Roswell Park, of Buffalo, Vice-President, Wm Maddren, of Brooklyn, Secretary, F C Curtis, of Albany

The Arizona Medical Association—The fourth annual session of the Arizona Medical Association convened at Phoenix, Ariz February 6 The following officers were elected for the ensuing year President, Dr P G Cotter, Vice Presidents, Drs Neil McIntyre, B G Fox and A M Givens, Secretary, Dr L D Dameron, Treasurer, Dr I B Hamilton, Essayist, Dr F H Willes The next meeting will be held in Prescott, May 28, 1896

The Obstetrical Society of Cincinnati at its annual meeting elected the following officers for the ensuing year President, Dr A W Johnstone, Vice-President, Dr Sigmar Stark, Secretary, Dr E S McKee, Corresponding Secretary, Dr W D Porter, Treasurer, Dr G E Jones

SELECTIONS

Treatment of Senile Heart—In his recently published work on "The Senile Heart," Dr G W Balfour thus summarizes his method of treatment *Precordial anxiety*—careful dieting, cardiac tonics, rest at first, afterward regulated exercise *Intermission and irregularity*—careful dieting, vascular stimulants, combined with cardiac tonics, sedatives, especially for women about their climacteric, occasionally hypnotics, antacids and anti-arthritics, assafetida (pil galbani co), moderate exercise *Palpitation*—antacids, stimulants, mustard over precordial region, hot foot-baths In interval strengthen patient by open air exercise, good food and such tonics as may seem needful especially iron *Treatment cordis*—careful dieting most important, antacids, anti-arthritics, pil galbani co *Tachycardia*—careful dieting, in recent cases following cardiac overstrain, belladonna or atropin must be pushed till pupils dilate In cases of poisoning by tobacco or alcohol, tonic doses of digitalis useful Cardiac tonics, especially digitalis and arsenic, continued for a long time in moderate doses, supplemented by hypnotics at bedtime especially morphia Digitalis most useful in vagus paralysis, morphia in affections of the sympathetic Cholate of soda slows the pulse, but it destroys the blood corpuscles, and the benefit is thus a doubtful one Antipyrin has been recommended theoretically Faradization of the skin over the precordia, or of the vagus nerve, or the skin or vagus may be galvanized Compression of the vagus Forced inspiration, holding the breath as long as possible Ether sprayed along the cervical spine A chloroform poultice over the precordial region *Bradycardia*—in the hemi systolic variety, cardiac tonics, especially digitalis In true bradycardia, digitalis is also indispensable, to maintain the elastic tonicity of the heart, and to enable the heart to cope with the exceptionally high blood pressure prevalent during part of the systole *Delirium cordia*—careful dieting, vascular stimulants, cardiac tonics, antacids, and anti-arthritics *Angina pectoris*—during the paroxysm, nitro-glycerin, nitrite of amyl, chloroform and morphia, during the interval most careful and abstemious diet, especially towards evening Vascular stimulants in combination with cardiac tonics, especially arsenic Exercise is to be avoided, and only undertaken when duly prepared for by the ingestion of some vascular stimulant

NECROLOGY

JAMES BURNS, M D, Louisville, Ky, on the 11th inst Dr Burns was born in Dayton, Ohio, Nov 15, 1820, and was in his seventy-fifth year——William T McGinnis M D, of Eminence, Ky, February 13 Dr McGinnis was a graduate of Center College and of the Louisville Medical College——L C Wagner, M D, of Nicholasville, Ky, February 14

WILLIAM GODFREY DYAS, M D, of Chicago, was instantly killed by a railroad train February 17 He was born in Dublin, 1807 At the age of 16 he entered Trinity College, Dublin From thence he was transferred to the Royal College of Surgery, where he was graduated in 1830 In 1832 he received an pointment to the cholera hospital, County Kildare, which is under the supervision of the government At the clos g of this hospital he was placed in charge of the fever hos tal, and also three dispensaries In this extensive field of actice he labored for a period of twenty five years, when the approach of the potato famine and its final conse ience, he returned to Dublin, and was appointed Assistant emonstrator of Anatomy at Trinity College A year later 856) he came to America, in July, 1859, he moved to Chi go and for some months was editor of the *Chicago Medical urnal* under the late Dr Brainard He was President of e Cook County Medical Society for the year 1873-74 He as one of the prime movers in the establishment of the oman's Medical College

MISCELLANY

Diphtheria Serum.—Dr Ohlmacher, of Cleveland, writes us at with the coöperation of Drs C B Parker and H W itchen, all of Cleveland, he has completed the immuniza ion of a horse against diphtheria The time occupied was ne month and sixteen days He has verified the immuni ation by repeated tests and is of opinion that this is the irst diphtheria immune horse in the United States

Protection from Facial Paralysis —Chabbert (*Le Progres Medical*) thinks the protection afforded by the hairy covering of the face plays an important role in the prevention of acial paralysis *a frigore* The influence of this factor explains why facial paralysis is much more common in women han in men, and why in the male sex we notice it more frequently in those with *smooth faces* The beneficial influence of the beard on tri facial neuralgia has already been pointed out

Diagnostic Import of Premature Expulsion of Meconium —Rossa observes that premature expulsion of meconium is generally supposed to indicate danger to the fetus from asphyxia, and is consequently a reason for hastening delivery The author (*Arch f Gyn*) thinks this is an error and has shown that it is not true in a large number of cases In his opinion it is due to increased peristaltic movements in the fetus, which may depend on a number of causes other than asphyxia Among these causes Rossa insists on those of maternal origin—gastro-intestinal among other

Ice-Chloroform —J Christian Bay, F G B S , Bacteriologist to the Iowa State Board of Health, is pursuing investigations into the mortiferous poisons of chloroform, and asks that samples of long-preserved chloroform and other fluid chemicals containing whitish flocks or precipitates be sent him for examination He claims to have found in chloroform which had caused death, certain chemic products of the putrefaction of the anesthetic Following in this line the investigations of Dr Réné Du Bois Reymond, Mr Bay says that these poisonous products may be removed by crystallization in ice, and that such ice chloroform presents the only security against danger from a long kept specimen

Excito-Motor Power of the Stomach in the Insane —G Dotto furnishes the results of his experiments to determine the excito-motor power of the stomach in the insane—*Arch di Farmacol* The betol test was used in patients not receiving any other medicament Two hours after the ingestion of one-half liter of milk, one gramme of betol was given and the acidulated urine was tested with ether for the first traces of salicyluric acid The researches of Lovisetti, Fodera and Corselli prove that the betol test is better than that with salol and more practical than Leube's test Apart from special lesions the excito motor power is normal in arrested psychic development (idiocy), diminished in hysterical lethargy, increased in those forms of mental alienation with psychic and motor excitation, and but little increased in cases of psychic depression

Ablation of the Mammary Gland —Horner gives the results obtained in 172 cases of malignant tumors of the breast treated by amputation—*Beitr Klin Chir* Of this total number of cases, 158 were cancerous in nature The operation itself caused 5 9 per cent of deaths The mean duration of life was eighteen and eight tenths months more in these 172 cases than in those not operated upon Horner adds that there were 17 7 per cent of definite recoveries—that is to say, with no return of the disease after more than three years These statistics include fourteen cases of sarcoma, the average age of the patients being a little over 30 years Thirteen of these patients had a total of seventeen operations performed, of this number there were ten recoveries, a mean of 76 0 per cent

Function of the Suprarenal Capsules —Some light is thrown upon the nature of the *function* of the suprarenal capsules by a series of experiments made by *De Dominicis* He concludes (*Arch de Phys*) that total extirpation of these bodies, either simultaneously or with an interval between invariably causes death after a maximum lapse of two, three or four hours This ablation immediately causes intense shock with phenomena of stupefaction and of general collapse, especially of the heart Section of the spinal cord in advance or the exhibition of atropin, notably retards these symptoms, and at the same time diminishes their intensity The theory of auto intoxication appears to De Dominicis less in accord with these facts than with that of a violent neurolytic action, thus apparently confirming the recent opinion of Lusari that the suprarenal glands are nervous ganglia

Harvard Medical School —The resignation of Prof H P Bowditch from the office of Dean of the Harvard Medical School, after a period of service extending over ten years, is made the occasion for a review of the progress made by the School during that time in the annual report of the President and Treasurer of the Harvard College In 1883-84 there were 243 medical students, in 1893-94 there were 472 in attendance During the same period the number of the faculty has increased from twenty-two to twenty eight persons, and that of the instructors from thirty to fifty eight, a new building was occupied, the laboratory method of teaching was extended and improved, the activity of the school as a center of medical investigation was heightened, the compulsory four years' course of study went into effect, the annual receipts and expenses of the school increased by about 75 per cent A most satisfactory showing for the decade, and a conclusive proof that a high standard of medical education is not incompatible with increased classes and revenues, but the contrary

Medical College of Virginia —Since the return of the classes of 1894-95, in attendance at the Medical College of Virginia, was made (as published in the JOURNAL of January 12), the aggregate has been increased to 138 This increase is in accordance with the information conveyed in the following note from Dr Christopher Tompkins, Dean of the Faculty, the reference number to which was transposed as previously stated "We have ten State scholarships, given in consideration of the fact that we receive aid annually from the State We have no other scholarship feature, as is so often found in other medical institutions, or our number of matriculates would have been greatly increased We have no dental or pharmacal department connected with our school It is proper to state that the number of students as above for season of 1894-95 is incomplete, as we expect a number more to come in soon" The Medical College of Virginia is a three-year graded school of six-months' sessions, is one among the oldest in the country, this being its fifty-seventh session, and is a member of the Southern Medical College Association

Malarial Influence in Abortion and Sterility —At the Indian Medical Congress last December, Mr A J Weatherly, M R C S, Eng, L R C P, Lond, gave his experience in Africa, Florida and India on malarial influence in abortion and sterility In England and in healthy parts of South Africa where malaria is unknown, he had ninety-one confinements at term with four abortions In malarious parts of Africa and India he had 100 confinements at term and 48 abortions, and in Florida 30 confinements at term and 22 abortions He has observed that a large proportion of his cases, though living in malarial districts, did not abort at times of attack of fever—in fact, in very many cases malaria showed itself only in the habit of abortion He has also noted that a very much larger proportion of women are sterile in malarial districts than in others and that if they reside many years in such districts this sterility becomes permanent, whereas, if they leave before too long a time has elapsed they may bear children He adds "The influence of malaria on abortion and temporary sterility is still more marked in the very deadly malarious climate of Florida, where I saw twenty-two cases of abortion to thirty confinements at term, and ten cases of temporary or permanent sterility in a period of two years in a very small district"

Against the "Christian Scientists"—Following is the full text of the measure now before the New Hampshire Legislature to govern and regulate fraudulent medical practice and the so called Christian science or faith cures

SECTION 1—No person within the limits of this State shall treat, attempt to heal or cure any other person or persons by the so called Christian science or faith cures

SEC 2—If any person shall treat, attempt to heal or cure, or claim or pretend to heal or cure any other person or persons by either of said methods and shall directly or indirectly accept or receive any money or other thing in payment for or on account of such services, or directly or indirectly accept or receive any gift or reward therefor in any form, such person so offending against the provisions of this act by so accepting or receiving such money, gift, reward, or other thing shall be fined a sum not exceeding three hundred ($300) dollars for each and every offence, and half of such amount to be given to the complainant, the other half to the State

SEC 3—This act shall take effect upon its passage

Semi-Centennial of the American Medical Association—Extract from a forthcoming volume, entitled "Personal Reminiscences," by Samuel C Busey, M D, Washington City, D C—"I was present at the meeting of the AMERICAN MEDICAL ASSOCIATION held in Philadelphia, in May, 1847, and was present when Chapman was elected President, witnessed the dignified formalities of induction into office, and heard his inaugural address of thanks for the honor The circumstance of my presence at the first session, and witnessing the inauguration of the first President of that august assemblage of medical men, suggested the inquiry to ascertain the number, names and residences of those who have survived the period of forty-seven years since elapsed I am enabled, through the politeness of Dr Wm B Atkinson, the Permanent Secretary, to state that but five are now (July, 1894) known to be living They are Hiram Corson, Plymouth, Pa, Alfred Stillé and Lewis Rodman, Philadelphia, Oliver Wendell Holmes,[1] Boston, and Nathan S Davis, Chicago

"There were undoubtedly many students like myself residing in Philadelphia, who attended the meeting, and it would be interesting to ascertain their names and residences, but it is not possible to do so, except by their voluntary statement of the fact of their presence

"In view of these facts it seems eminently proper that preparations should be initiated at Baltimore, in 1895, for an appropriate commemorative celebration of the semi-centennial anniversary at Philadelphia in 1897 Efforts should be made to secure the attendance of the survivors of the founders, and also of those now members who were students in attendance as spectators in 1847 This latter proposition is somewhat experimental, inasmuch as there is no record of such accidental attendants, whose casual presence would hardly entitle them to official participation in such commemorative ceremonies"

Surgical Pathology of Madagascar—Dr Thesen, in charge of a Norwegian hospital at Tananarivo, has issued a report of the work done by it, which is quite large considering that it has only thirty beds From a summary in the *Bulletin Medical* it is learned that in three years 300 administrations of chloroform were given, with one death from pulmonary edema, 211 cataracts were operated on, three unsuccessfully The so called senile cataract appears early, three patients were only 31 or 32, and a large number had not passed 50 Autoplastic operations comprised twelve harelips, ten transplantations and two rhinoplastics Various kinds of tumors were operated on, among them fifteen cases of elephantiasis Arabum, fourteen of which were in females from 18 to 40 years old, all in connection with syphilis which had not been treated M Thesen states that the doctor who makes his observations in Madagascar can not deny the intimate etiologic relation which exists between syphilis and elephantiasis of the genital organs Malignant tumors were rare, in three years only three cases of sarcoma and six of carcinoma being noted Osseous and articular tuberculoses seem excessively rare, for no case occurred Abscess of the spleen and liver is common, stricture of the rectum either from syphilis or dysentery is also common Hemorrhoids are very frequent—forty-five cases were operated on In the three years forty one operations for vesical calculi were performed, 59 per cent uric acid, 18 per cent mixed, 9 per cent phosphatic, and 14 per cent oxalate of lime, three-quarters of these were children under 15 The author adds that the hygiene in the town is deplorable It is necessary to go a long distance for drinking water The morals are very lax The climate is not suited for any one from the north of Europe, those from the south easily become acclimated

Can give Opinion as to Effect of Tumors—In an action brought to recover damages for personal injuries a question was put to a physician which called for an opinion "upon the exciting cause of the illness" from which the plaintiff suffered from Jan 9, 1887, till her death, on May 18, 1892 The nature of the illness was described in the question The answer was 'From the result of the autopsy, knowing that there was a tumor of the brain, I presume that was the exciting cause of the troubles from which she suffered" When the witness was called, the counsel for the defendant admitted him to be a good practicing physician, a graduate from a good institute, and of long experience, but not an expert on tumors The exceptions also recited that "Before the hypothetical question was put to him he was asked if he was familiar with tumors of the brain, to which he replied that he was not He was then asked if he knew what caused tumors, to which he answered that he did not mean to be understood that he understood the causes of tumors, that he knew what the authorities said in regard to them, that the causes were chiefly unknown" The Supreme Judicial Court of Massachusetts holds, in the case of Hardiman v

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[1] Died Oct 8 1894

Brown, decided Jan 3, 1895, that the physician was qualified to answer as he did the hypothetical question put to him It says a good practicing physician, of long experience, who knew what the authorities said in regard to tumors could properly be permitted to answer the question as this one did, although in his practice he had not been familiar with tumors on the brain and did not pretend to understand the cause of tumors He was not permitted to give any opinion upon the cause of the existence of the tumors at the base of the brain of the plaintiff, but only of their effect in producing the symptoms of disease which appeared in the plaintiff's case A doctor of medicine may be competent to express an opinion upon the effect of pressure at the base of the brain whether it arises from tumors or other causes, although he may never have been called to a case where tumors were known to exist there, and, in determining the qualifications of a physician, the extent of his reading in his profession may be considered, as well as his experience

Depopulation of France —In a discussion before the Paris Academy of Medicine, reported in *Le Progres Medical*, M Cadet de Gassicourt said that the doctors, while seeking to diminish mortality, could do very little to increase the birth rate M Javal thought that physicians might by their counsels, have some effect against the diminished birth rate, the latter is caused principally by the voluntary sterility of families, and physicians could point out the hygienic evils entailed by it M Guerin had little faith in the efficacy of the physician's advice He believed the depopulation arose, in the first place, from people leaving the country to go to the cities, hence the children, which in the country were riches, so to speak, in the city were a charge and a constant source of uneasiness While physicians can be of but little help in overcoming this diminished natality, surgeons can do something by leaving a few ovaries from time to time M Charpentier showed the difficulties and the contrary results which statistics of infantile mortality often presented He also believed the principal factor in the diminished birth rate arose from voluntary sterility—families in France did not wish for more than one or perhaps two children M Pinard, while admitting the influence of voluntary sterility regarded M Charpentier's assertion as slightly exaggerated He had seen numerous families with more than two children A singular fact showing clearly that sterility is voluntary is that when the sole child dies, the parents have another after ten, twelve or even fifteen years of sterility M Guerin cited the frequency of abortions, in a recent trial at Limoges, the prisoner had performed no less than 5,000 abortions He also called attention to the influence of alcoholism on the parents, by diminishing fecundity and increasing infantile mortality M Lagneau said that in the country, in Normandy for example, the natality is most restricted The social conditions and the more or less easy outlet offered to children of the numerous families played the preponderant rôle M Lannelongue had particularly studied the influence of alcohol this is very difficult to interpret In parts of the country which consume the most alcohol, as in Brittany, we find the fecundity is considerable In the most isolated districts, in Gers for example, natality is very low, but he admits the influence of alcohol on infantile mortality These are the principal arguments invoked to explain the diminished birth rate It seems that the system of taxes which weighs so heavily and so directly on large families may also have something to do with it

The Pacific Coast Association of Life and Accident Insurance Examiners —Early in January a circular, signed by Dr C K Cole of Helena, Mont, Nominator Equitable Life of New York Dr J B Eagleson, of Seattle, Wash, Referee, Mutual Benefit Life of Newark, and Dr Henry W Coe, of Portland, Ore, was sent to the Insurance Examiners of Montana, Idaho, Utah, Washington, Oregon, California and British Columbia, inviting them to meet in Parlor B, of the Portland Hotel, Portland, Ore, on Wednesday, January 30, at 10 A.M, for the purpose of forming an Association of Insurance Examiners In reply to this call, sixty six applications for membership were received and the Association was successfully organized under the above name, with representatives from seven States and Territories The following prelude to the By Laws states that "the object of the Association is to liven interest in the important department of life and accident insurance work of physicians To widen the knowledge of its membership upon such subjects through interchange of ideas and unity of purpose, to the end that the local examiner and surgeon may have a broader view of his duties and responsibilities, do his work better and thereby protect to a fuller degree the companies which have intrusted vast interests to his care Also to devise any necessary protection of the examiner in the legitimate pursuit of such avocation against encroachments upon his, from any and all sources"

During the meeting the following papers were read and discussed 'Fees for Life Insurance Work," by Dr H W Coe, of Portland, 'References" by Dr G S Armstrong of Olympia, 'Overweight" by Dr H W Coe and "Careless Examinations," by Dr W I Amos, of Portland

It was decided that the meetings hereafter should be held at the same time and place of one of the State medical societies of the region covered by the Association The next regular meeting will be held at the time of the Washington State Medical Society at Seattle, on May 18 1895

Dr Richmond Kelley, of Portland Ore was elected President, and the following Vice Presidents elected to represent the States to which they belong Dr I M Sims, of Kalama, for Washington, Dr W J McGuigan, of Vancouver for British Columbia, Dr I D Bullard, of Los Angeles, for California, Dr C K Cole of Helena for Montana, Dr C L Sweet, of Boise, for Idaho, Dr C S Baldwin of Salt Lake City for Utah and Dr J D Fenton, of Portland for Oregon Dr Henry W Coe, of Portland, was elected Secretary and Treasurer

This is the second Association of Insurance Examiners organized in this country (the first being the Georgia State Society of Insurance Examiners) and from its large membership and the enthusiasm of its organizers it will no doubt be the means of doing much good among its Fellows and for life and accident insurance work generally

Washington Notes

MEDICAL SOCIETY OF THE DISTRICT —At the meeting of the Society held on the 6th inst Prof W J McGee read a paper entitled, 'Primitive Trephining in Peru," and illustrated it by the Muniz collection of crania Dr G N Acker reported two cases of heart disease and presented the specimens Dr J T Johnson reported a case of extra uterine pregnancy and presented the specimen On the 13th inst Dr Sofie A Nordhoff read a paper on "Kinetic Therapeutics in Gynecology or Thure Brandt's System" Dr Stone reported a case and presented a specimen of cancer of the ovary

THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY —The two hundred and twenty third meeting of the Society was held on the 15th inst Dr Van Rensselaer read a paper on the "Necessity for Early Operation in Mammary Cancer" Dr Bowen reported a case of stricture of the female urethra and exhibited the patient

THE FOLLOWING CIRCULAR has been sent by the Health Officer to the physicians of the city

"Your attention is respectfully invited to the following amendment to the Regulations made under the Act to prevent the spread of scarlet fever and diphtheria in the District of Columbia, approved Dec 20, 1890

"SECTION 3 —Is hereby amended, to take effect Feb 15, 1895 so as to read as follows

"SEC 3 —The warning sign shall remain on premises in which there is a case of scarlet fever for a period of not less than three days after the complete recovery of the patient as certified by the attending physician

"The warning sign shall remain on premises in which there is a case of diphtheria for a period of not less than four weeks from the complete disappearance of the membrane as certified by the attending physician, but may be removed before the expiration of that period if a bacteriologic examination by a competent person has demonstrated the absence of the Klebs–Löffler bacillus

"In no case will the warning sign be removed before the premises have been disinfected to the satisfaction of the Health Officer"

Mortality of the District —Notwithstanding the severe winter weather for the last week, a condition of good health prevailed throughout the District As shown by the returns of mortality to the Health Department, there was one less death than in the previous report The death rate for the whole population fell to as low a figure as 15 66, as compared with 20 43 for the corresponding week of last year There was a slight increase in the number of fatal cases of chronic affections, accompanied by a relative decrease in acute lung attacks There seem to be no malignant fevers prevalent, and mortality among the aged over 60 years and children under 5 years is at a minimum and below the average The effort to limit and eradicate smallpox is apparently proving successful

Eastern Dispensary —The Commissioners have transmitted to Chairman Williams of the Sub Committee on District Appropriations of the House, the needs of the Eastern Dispensary, an institution which has been in useful existence for several years It is managed by some of the best citizens, ladies and gentlemen of high standing, who have carried it on without much aid from the public funds For a year or two the Commissioners have devoted $500 per annum of the appropriation for the relief of the poor for that institution It has recently come to the attention of the Commissioners that the lady managers are desirous of establishing an emergency hospital service for the eastern part of the city of Washington, and with this end in view they ask for an appropriation of $1,000 for the fiscal year 1896

St Elizabeth's Hospital —W W Godding, Superintendent of the Government Hospital for the Insane, has submitted a report to the Commissioners for the month of January, 1895, noting the changes among the inmates of the hospital, and admissions during the month by order of the Commissioners During the month there were admitted nineteen white and five colored inmates During the month there were fifteen dismissals, of which number nine died, four being colored and five white, and the remainder on visit and improved

Louisville Notes

Mortality Report —The report of the Health Officer shows a total number of deaths of seventy seven, and of these more than one third, twenty-seven, were due to pneumonia This is an unusual death rate from this cause, and shows the generally severe type of the disease which prevails this year Of the number, forty-three were male and thirty-four female, sixty-four white and thirty-four colored, fourteen were under 1 year of age, and twenty six from 50 to 80 years of age There were five deaths from cerebral meningitis, six from consumption, three from typhoid fever

Smallpox —The smallpox which was reported in these columns recently as having developed in Lexington, Ky, shows no signs of being under control Four new cases have been reported, and at a special meeting of the council on the 13th, it was decided to establish a pesthouse Every precaution is being taken to prevent its spread to this city All of the stable boys and jockeys now at the Churchill Downs race track have been ordered vaccinated by the City Health Officer, and all newcomers must be vaccinated by one of the city physicians

Illegal Practice —During the week the attorney for Dr Rice who is charged with illegal practice of medicine, moved in the police court to quash the two warrants that have been pending for some time against Dr Rice The counsel of the State Board of Health objected, and the warrants were filed away, as Dr Rice moved from the State before they could be served on him

Railroad Agreement —For a number of years the hundreds of medical students in this city at the close of the college term, have been in the habit of clubbing together and demanding rates and other concessions which the agents have oftentimes granted to get travel If one road did not grant the concession it had the alternative of seeing another road gain the business The medical student travel in and out of the city is very large owing to the number of colleges here, and to secure their business is a great stroke on the part of any passenger agent The agreement made between the outgoing roads from Louisville was to hereafter make no concessions to medical students in order to gain their business, but to sell tickets to them at tariff rates as they are sold to other travelers The agreement was entered into as a means of protection, as the roads saw that a continuation of such conditions would bring upon them much loss and a perpetual state of unrest No affront is meant to the medical students, but they state they have simply taken a step which is just to themselves and the public generally The roads also stipulate that they will allow the medical students no meals or other concessions as bait for the business

Hospital Notes

Plans have been drawn for the new hospital for contagious diseases at Rochester, N Y The building will be one story in height, thirty-three feet wide and one hundred and fifteen feet long ——The forty-eighth meeting of the Alumni of charity hospitals was held in New York February 8 Dr Adolph Rupp presided ——An annex to the Kansas City Hospital took fire February 8 The blaze was extinguished before serious loss resulted

THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Feb 9 1895 to Feb 15 1895

Col Charles C Byrne Asst Surgeon General, is relieved from duty as Medical Director, Hdqrs Dept of Dakota, and announced as Medical Director, Hdqrs Dept of the East

Lieut Col Henry R Tilton, Deputy Surgeon General, is announced as Medical Director, Hdqrs Dept of Dakota

First Lieut Guy C M Godfrey Asst Surgeon, will proceed without delay from Ft D A Russell, Wyo, to Ft Omaha Neb, and report for temporary duty

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended Feb 15, 1895

Surgeon George Purviance, detailed as chairman of board for examination of Asst Surgeons for promotion, to convene in Washington, D C, March 11 1895 Feb 8, 1895

Surgeon J B Hamilton granted leave of absence for six days, Feb 7, 1895

Surgeon H W Austin detailed as member of board for examination of Asst Surgeons for promotion, Feb 8, 1895

Surgeon Fairfax Irwin, detailed as recorder of board for examination of Asst Surgeons for promotion, Feb 8, 1895

P A Surgeon W G Stimpson to assume temporary command of Service at Port Townsend, Washington during absence of P A Surgeon J O Cobb Feb 13, 1895

Asst Surgeon J M Eager, ordered to examination for promotion, Feb 9 1895

Asst Surgeon Rupert Blue, granted leave of absence for six days, Feb 13 1895

Asst Surgeon Seaton Norman ordered to examination for promotion, Feb 9 1895

LETTERS RECEIVED

Busey S C Washington D C Beck, Carl New York, N Y, Beuchel O B, Battle Creek, Mich Bumgarner, A E Piketon, Ohio

Conant W C New York N Y Crosby, W E, New York, N Y Connorton M Chicago, Ill Caldwell, F H, Sanford, Fla, Cantwell, G M D Little Rock Ark

Drysen & Pfeiffer New York, N Y Daly, W H, Pittsburg, Pa

Edwards, T L Cuba City, Wis

Friedenwald, Julius, Baltimore, Md, Fann Mrs G, Kelley's Island, Ohio Fite B W, Resaca, Ga, French, Pinckney, St Louis, Mo, Fox, Philip R, Madison Wis

Gihon Albert L, Washington D C Greene F C, Chicago, Goss, E L Sheffield Iowa Gardner R W, New York, N Y

Howe Lucien, Buffalo N Y Hay, Thomas, Philadelphia Pa Heuel, Emil New York N Y Hyatt B F, Delaware, Ohio, Hare, G A, Fresno Cal

Johnson M M Hartford Conn, Jones, W T, Georgetown, Texas

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Todd, W H Dobb's Ferry N Y

Veatch W H Carthage, Ill Vail, A M Rock Rapids, Iowa

Wood, Casey A, Chicago Woodruff Ezra, Fort Keogh, Mont

The Journal of the
American Medical Association

Vol XXIV CHICAGO, MARCH 2, 1895 No 9

ORIGINAL ARTICLES

IE TECHNIQUE OF OPERATIONS FOR CANCER OF THE BREAST

Read before the Denver and Arapahoe County Medical Society
Jan 29 1

BY CHARLES A POWERS, M D

SULTING SURGEON TO ST LUKE S HOSPITAL AND ATTENDING SURGEON TO ST ANTHONY S HOSPITAL LATE ATTENDING SURGEON TO ST LUKE S HOSPITAL AND TO THE CANCER HOSPITAL NEW YORK

DENVER COLO

I do not feel that apology need be made for intro icing to the society for discussion, the subject em died in the foregoing title, the widespread and creasing prevalence of cancer of the breast,[1] its nful and terrifying features, and, above all, the ry great attendant mortality, render it one of the ost important of surgical conditions and one in hich the most strenuous effort should be made to ire, and when cure be impossible, to ameliorate he views which I have the honor of laying before ou are based on some fifty operations in my own ospital and private practice These operations have een done under modern methods and nearly all the ases have been followed from year to year You ill, therefore, pardon me if my observations are argely personal, and if I quote but little from other riters

With the causes of cancer in general, we are as yet nfamiliar Heredity bears but a slight relation, redisposition and trauma are still indefinite The arasitic theory has of late years had zealous advo ates and equally positive negations At best it re mains unproved Discussion of this, however, is without the scope of this paper So, as well, of the diagnosis but little need be said A persistent lump, be it large or small, in the breast of any woman, young or old, is a matter demanding the most careful consideration It may be cystic or solid This will be determined by the exploring syringe If it be solid, its malignancy can often be accurately deter mined only by incision In those at or beyond middle life, a solid tumor is generally cancer In girls, while the chances are quite in favor of adenoma or fibroma, a sarcoma may be found In patients between the ages of 20 and 35, any of these forms may be encountered I have more than once seen cancer of the breast in a woman under 30 years[2]

So, in general, whatever be the age, the earlier our diagnosis be made accurate, the better it will be for the patient

Operations for cancer of the breast are designed to be curative or are merely palliative, and it is needless to say that the end in view is determined by the extent of the neoplasm Whatever this may be, the preparation of the patient is practically the same The bowels are well moved on the day preceding the operation, the chest, axilla and arm well scrubbed with soap and water and thoroughly shaved and a green soap poultice applied to the region of the incision and the surrounding parts This is left on over night On the morning of the operation the green soap is removed, the parts scrubbed with a 1 to 1,000 sublimate solution and a compress wet in this applied and left in place until the patient is under ether If there be an ulcerated area it may be covered with iodoform gauze and collodion, or it may be touched with the thermo cautery after the patient is anesthetized The assistant who is to give the anesthetic should prepare his hands as though he were to participate actively in the operation itself, and should wear a sterilized gown Care should be taken to see that the ether cone is cleanly[3] The best table is one of medium height, with the chest and head piece moderately elevated

Let us assume, if you please, that the left breast is the seat of operation and that the tumor is of moderate size, not adherent to the chest wall and not in the periphery of the gland The arm is abducted to beyond 90 degrees and held by an assistant or nurse The skin incision must be ample, well distant from the supposed margin of the growth It is of advantage in placing this incision to make light cuts in the skin for landmarks One at the inner angle of the incision (which will be at about the middle of the inner, lower quadrant), one in the axilla at the lower border of the tendon of the pectoralis major, and one each at the middle of the breast above and below

These landmarks are of distinct advantage, for when the tissues are placed on the stretch in cutting, it is difficult to estimate the amount of retraction which has been made

This upper cut goes well through the skin and subcutaneous fat, at the outer upper margin of the growth it swings down below the pectoral tendon and is prolonged to beyond the middle of the axilla An assistant pulls up the inner flap and it is well dissected from the chest toward the median line The knife then cuts toward the ribs, well into or through the costal portion of the pectoralis major, and a part or the whole of this muscle is raised, with a few deep strokes, from the chest wall The surgeon's left hand, grasping the breast and lifting it, makes this easy

At times a few vessels may require forcé pressure, often a sterilized towel crowded into the wound and firmly pressed down by an assistant will check oozing The lower incision is then made, the lower, outer flap dissected up and the breast and underlying muscular tissue cut from the chest, the pectoral tendon severed and the mass left hanging by the fatty tissue beneath and below the pectoralis major. These fatty tissues are then carefully divided from the chest wall from above downward and outward toward the axilla. The axillary vein is exposed by cutting through overlying fascia. This is best accomplished by slipping a blade of a medium, blunt, curved scissors beneath the fascia and cutting from within outward. The vein should be exposed for some two inches or more, the fascia and fat carefully dissected from it. The tributary veins should be clamped before cut, otherwise they retract and ooze in a troublesome way. If involved lymphatic glands be adherent to the vein it (the vein) may be resected. I have not seen more than temporary edema follow this.

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[1] Bryant New York Medical Record Jan 19 1895

[2] I would like here, to record the opinion that cancer is much more frequent in the third decade than is generally supposed I have seen cancer of the rectum, uterus lip, breast and stomach in patients under 30

[3] The physician s hands and the cone are so near the field of operation In one of my suppurative cases I felt that I could trace infection to this assistant

The entire axillary space is to be thoroughly cleared of the structures crossing it, the subscapular veins should be spared, the subscapular artery will not generally require ligation. The apex of the axilla and the space of Mohrenheim are to be carefully investigated and the contained fat and fascia removed. Finally, the entire mass of fat and glands is cut away from the serratus and latissimus muscles.

All bleeding is to be carefully checked and the wound closed. If the tumor be small the edges of the chest flaps can generally be approximated. If, however, it is large there will be a gap of large or small dimensions left. Here, in certain instances, the sliding flap method of Shrady will avail. In other cases lead plates with relaxation sutures will bring the flaps together as nearly as possible, and blood-clot (Schede) closure be obtained under strips of rubber tissue. Secondary skin grafting (Thiersch) may be done in eight or ten days.[4]

For sutures I prefer the silkworm gut, interrupted and not too closely placed. An axillary drain may be inserted or omitted. My recent cases have healed promptly without drain and under a single dressing. The ideal dressing is plain sterilized gauze. A mass of this crowds the fornix of the axilla well up, and the entire dressing is firmly and evenly held in place by broad strips of rubber plaster. A mass of sterilized absorbent cotton envelops the chest, with an ordinary binder over all. The arm is outside this and loosely fixed at the side.

The foregoing description applies to an ordinary case, in which the tumor is not large, say the size of a pigeon's egg, centrally placed and not adherent. It is needless to say that varying conditions demand essential modification in technique. If the cancerous mass be no larger than a plum and not extending to the under surface of the gland it suffices, I think, to remove the pectoralis fascia and leave the muscle. If the tumor be peripheral a corresponding amount of tissue must be removed in its vicinity. When the tumor extends to the base of the mamma, the greater pectoral must be excised, and it is worthy of note that two experienced observers, Halsted[5] and W. Meyer,[6] have recently advised that it be removed in all instances. Each of these surgeons has carefully devised a definite operation for the removal of both of the pectoral muscles, the former surgeon removing them in part, the latter *in toto*. Halsted reports fifty cases in which he has done this, which he calls the "complete" operation, and with the magnificent resources of the Johns Hopkins Hospital at his command we might well expect definite and extensive histologic reports of the involvement or freedom from invasion of the muscles, lymphatics, fascia, fat and other tissues. Such details are, however, lacking in the reports of his cases, and we must at present consider the proposition of theoretic value, though most certainly having the advantage of thoroughness and the wide removal of surrounding tissues. It is of interest to note that Halsted does not find this addition to increase the risk of the operation, and his patients regained excellent use of the arm in retaining the clavicular portion of the greater pectoral. I have repeatedly removed a large part of the muscle and have never seen resulting disability. As to the most important point in this proposition of Halsted and Meyer, the ultimate cure of the patient, we must await further report. For of Halsted's cases 75 per cent. have been done within the past three years (the generally accepted limit of "cure") and the remainder have but an average (22 per cent.) of freedom from relapse. Meyers' procedure is more radical, but he has had opportunity to apply it in but one or two recent cases. We shall await with much interest further reports on the all important question of radical cure.

The axilla must, in all cases, be invaded and thoroughly cleared out. This is a position universally accepted which admits of no debate. It makes no difference whether glands be felt therein before operation. I have repeatedly found small, cancerous lymphatics in an axilla which seemed normal on palpation. The axillary dissection must be thorough and carried to the highest possible point. So, as well, it is of the greatest importance that the tissues between the breast and axilla, the fascia, fat and contained lymphatics be removed in a single mass.[7] It is useless to say that the cases in which the axilla is not involved are those in which the prognosis is the best. Invasion of the high axillary glands makes it almost certain that there are involved lymphatics beyond reach. And I have been led, also, to expect speedy recurrence in those cases in which the axillary fat has a sandy, granular feel. Halsted advises in every case the excision of the supra-clavicular glands. This adds but a few moments to the length of the operation and one can but regard it as of material value.

Throughout the entire procedure, active assistance is of the greatest importance. All bleeding vessels should be promptly seized, the retraction should be intelligently made, especially when the axilla is the field of work. It is of distinct advantage to make the proper flaps at the first cuts, for if they require revision time will be lost in checking the accompanying hemorrhage. A "dry" wound is the best assurance of prompt healing.

In those unfortunate cases in which the disease is too far advanced to permit thought of mere palliation, operation is justifiable whenever it is felt that life may be prolonged and the comfort of the patient enhanced thereby. In such instances the operation may be modified to suit the requirements of the individual case. Our rule in regard to these palliative procedures should be a simple one, to act as the best interests of the patient demand.

As has been said, these cases may be put up with or without drainage. In my latest cases, in which I have operated in the dry, aseptic way, I have been able to dispense with drains. Unless there be some indication for change the first dressing may be left il the sixth or eighth day, at which time the silk- m stitches are removed From this time on, the ient is encouraged in the use of the forearm and a The functions return in due time and I have er seen permanent disability in patients in whom xillary fornix had been crowded well up

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[4] In general I have found this preferable to primary grafting.

[5] Annals Surgery, November, 1894.

[6] N. Y. Med. Record, Dec. 15, 1894.

[7] All incisions outside the cancerous tissue.

The immediate prognosis in the modern operation cancer of the breast is good I have myself had ne fifty operations without a post operative death lsted reports seventy six cases without mortality, ir over one hundred In general, the death rate is or 3 per cent As regards the most important ture, the ultimate result, statistics are steadily im- ving The most important contribution to this, fact the most valuable article on cancer of the east, which has yet appeared, is the recent paper by ll[8] This surgeon reports 118 personal cases, of ich he traced to the end 115, or all but three e exceptional value of these data will be appre ted when we realize that all of these cases were care- lly and conscientiously followed from month to nth A large proportion of them were seen by me d examined every three or six months

In case of death, the statements of the attending ysician were obtained as to the cause Patients who ed at a distance were regularly examined by the mily physician, and his report noted from time to ne in the history

Bull's cases are properly divided into two classes those operated upon during the past three years, d 2, those previous to that time Of these the sec- d class alone are utilized as to ultimate results, venty-five in number And of these seventy-five ses, twenty or 26 6 per cent are living, free from currence, at periods varying from three years nine onths to ten years after operation That is, 26 6 r cent of all cases may be classed as "cured " This , as Bull says "A higher proportion of cures than s been previously reported "

Bull's statistics might, however, mislead us in ncluding that the prognosis is less favorable than really is, for his cases include those in which the eration was palliative, as well as those in which e disease was yet in an early stage So, in this ay, Bull finds on dividing his cases that those in hich the axillary glands were free from invasion ow over 50 per cent of three year cures

I, myself, in my last year's work at the New York ancer Hospital, divided my operable cases into ree classes, as follows[9]

1 Those in which the disease is so limited that it s thought reasonably probable that it is entirely xcised and that the patient has a fair prospect of ure

2 Those cases in which the surgeon is doubtful, fter removal, whether he has gone beyond the limits f invaded tissue, and,

3 Cases frankly incurable, in which a palliative peration affords a fair prospect of adding to the life nd comfort of the patient

It is needless to say that no sharp dividing lines an be drawn One places an individual case in ts approximate class after he has operated, and fter he has read the detailed report of the pathologist

It would be quite as irrational to include all cases f pulmonary tuberculosis in one class, both incipi- nt and advanced, and to say that the percentage of cures is thus and so, as to pursue a like course in cancer An adherent breast cancer the size of a cocoanut is one thing, a nodule no larger than a robin's egg is quite another matter, and it is obviously unfair to allow the latter to bear the recurrence percentage of the former

The histologic examination of the parts removed is of the greatest importance and should be made in a most thorough manner No specimen can be certified as cancer until the microscope has so proved it, and it is not sufficient to make a perfunctory examination of a piece of the tumor itself Segregated glands should be carefully examined, especially those lying highest in the axilla It has been my custom to mark certain outlying portions of the breast, skin, muscle, fascia, glands, etc, for special report by the pathologist, and he should note the amount of healthy tissue intervening between the tumor itself and the cut surface of the parts removed In this way alone, may we be reasonably assured that we have gone beyond the confines of the growth, and in this way, as well, may we compare with the original history of the case the development of recurrent nodules

Our responsibility in these cases of mammary cancer does not end with the simple removal of the growth The patients are to be placed under the best hygienic conditions and are to be followed carefully from year to year My own rule has been to instruct them to return for thorough examination every three months, and in the interim, if they find evidence of suspicious nodules The more intelligent class of people will, as a rule, see the necessity for this and gladly comply The poorer classes will often fail to return and must be looked up in their homes As an evidence of the thoroughness with which this can be done, I may again refer you to Bull's list of 118 cases in which 115 were kept under constant observation to the end Internal recurrence admits of no relief Local nodules may, however, be removed from time to time, and while in general the prognosis in recurrent cases is unfavorable, yet we may often add to the comfort of the patient and at times achieve a lasting cure

As an example of the value of this frequent revision I may cite the case of a woman of 46 years who was in one of my wards at the Cancer Hospital in May last Bull had removed the right breast of the patient for cancer some four years previously A year later Weir excised an extensive scar recurrence Something like a year after this, I removed the opposite breast and axillary contents for a cancerous nodule, the size of a robin's egg, and have since excised small nodules on four different occasions from the scar of the right side Her general health has not yet suffered and she is able to support herself and children It is now over four years since her original operation, and but for the fact that she has been watched constantly, she would doubtless have died long since

I purposely omit more than the briefest mention of the use of erysipelas injections in malignant growths In sarcoma the method seems deserving of the most extended trial In carcinoma we have practically no evidence that it is of value

I can but class these operations for cancer of the breast as among the most important with which we have to do in surgery, not that they are in themselves dangerous, but that the best chance for cure requires the exercise of mature judgment And in conclusion, I beg to express the view that mammary cancer is a curable disease, and that the keynote to its successful management is to be found in the earliest possible diagnosis, prompt and wide excision and careful observation of the patient during the remainder of her life

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[8] N Y Med. Record Aug 25, 1894

[9] N Y Medical Jour September, 1894. I use the word 'doubtful" n its broadest sense It is needless to say that one never feels certain

Stedman Block

RELATIONS OF DISEASE, CRIME AND VICE

Read before the Omaha Medical Society, Dec 11, 1894

BY W O HENRY, M D

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I would define these terms by saying that disease is the violation of any physiologic law or any abnormal activity in living tissue Crime is the violation of any human law, or any abnormal activity in the civil world Vice is the violation of any moral law, or any abnormal activity in the moral world

We have to-day in the United States more than one hundred thousand tramps who find it easier to get a living by begging from door to door than by labor, and hence take to this sort of life

There are more than five hundred thousand criminals in this land to-day and only one-fifth of them are behind the bars It is estimated that two women out of every one hundred in this country are fallen women The percentage of divorces to marriages is alarmingly great so that in some States there is one divorce granted to every twelve marriage licenses issued Ten thousand children roam the streets of Chicago homeless and without suitable food, clothing, shelter or guardianship While this appears to be a very large number it is probably not greater than will obtain elsewhere

Although it is impossible to get at statistics upon the frequency of criminal abortions, yet so prevalent is it even in the so-called "better" classes of society that in some quarters a great cry has justly been raised against it in which every physician should join, for he alone has any adequate conception of its frequency and disastrous results, morally and physically

By sentimentalists and would-be reformers it has of late become quite common, and especially since the "Keeley cure" and "Christian science" fakes, to hear it affirmed that alcoholism or drunkenness is a disease and the victims are irresponsible for their acts Thus morphinism, cocainism and allied disorders are placed in the same category and heredity is very properly given a prominent part in their production

T D Crothers, of Hartford, a recognized authority, estimates that there are in the United States 1,600,000 excessive drinkers besides a large number of victims to morphin, chloral, cocain and other narcotic drugs He says "Alcohol used either in moderation or excess, always deranges sensation and the brain centers, which receive and determine the value of the impressions False impressions come from the senses and the brain is unable to correct them Associated with this the delusion of mental health, and clear accurate judgment of his conditions and surroundings This condition is present in every drinking man, only different in degree The criminal acts of the inebriate spring from this confusion of sense and judgment This shows the irresponsibility of inebriates"

Dr L D Mason, of Brooklyn says "The large majority of inebriates become so from necessity, not from choice, there being a *vis a tergo* of heredity, environment and disease that produces physical degeneracy and plunges them into drunkenness"

Wilson, of Edinburgh, says "Drunkenness is the outcome of an ill organized constitution"

Two noted French medical authorities in a report to the Government Hygienic Committee give the opinion that, "alcoholism is now a social danger, undermining the bodily and mental health of posterity, and that from its injurious influence on the children and ulterior descendants of the habitual consumer, a degeneration of the whole nation is being induced"

The large increase of drinkers among women both in this country and England is a cause for serious alarm Lawson Tait says "An educated and intelligent woman never becomes a drunkard but from some deep-rooted and often carefully concealed cause The indulgence may be from physical suffering or mental distress" He holds that many of his cases of suffering from inflammatory affections of the uterine appendages have been cured of these habits by the treatment which cured their physical suffering

Dr F O Marsh, of Cincinnati, in a paper read before the Miami Valley Medical Society upon morphinism said "The deviation from the normal standard of nerve nutrition and nerve function resulting therefrom, and which impels to and necessitates the continuance of morphin is a disease

The moral responsibility of the patient at any given time for the continuance of the habit diminishes in direct proportion as the nerve degeneration has become deep seated and inveterate"

Dr Norman Kerr, of London, says "The permanent impairments of the nervous system in inebriety are described as phases of alcoholic dissolution, a retrogressive pathologic process In the etiology of alcoholic nerve degeneration there are two elements, viz, the effects of the direct pathologic action of alcohol on the newer tissues, and of the impoverished blood supply These are chiefly the breaking down of the nerve elements, with thickness and inelasticity of the blood vessels and overgrowth of the connective tissue The gradual appearance and development of an appetite for excessive drink often indicates brain degeneration"

Dr B Clark, of New York, in speaking of alcoholism says "It is responsible for over one-half of the sum-total of human miseries" Again he says "It is a disease that can be managed much more readily than imagined and yet a disease which few physicians know how to handle when called upon to do so"

Henry O'Neill, of Belfast, cites among police cases, the fining of a woman 10s for drunkenness who had been convicted of the same offense ninety-two times Another woman fined 10s whose previous record was 140 convictions, and still another fined 20s who had been before the court on a like charge 170 times He then states that nearly all the highest penal records had been of women and draws the conclusion that fines and punishment are failures as reformatory measures Therefore it is said "It is inevitable that drunkenness is a disease, not a crime In German, Austrian, Swiss, Italian and Dutch law, there is a istinction between culpable and inculpable intoxication English laws generally exact complete esponsibility In Austria a peasant farmer while ntoxicated, killed his brother In Britain he would ave been hung, or, at least have received a very long erm of imprisonment Under the Austrian code rovision of a reduction of punishment in the nonntent of intoxication, he served nine months imprisonment, became a changed man, and headed a temperance reformation in his district, where a monument has been erected to commemorate his great service to his country" Precisely the same kind of sentimental foolishness advocated by some Americans So much, Mr President, for drunkenness and its allied affections

Dr Hunter McGuire, of Virginia, in writing to Dr Lydston, of Chicago, requesting a "scientific explanation of the sexual perversion of the negro of the present day," says "Before the late war between the States, a rape by a negro of a white woman was almost unknown, now the newspapers tell us how common it is In the South the negro is deteriorating, morally and physically During the days of slavery, insanity was very uncommon among the negro race Now, our large asylums are not capacious enough to hold the insane negroes of both sexes" He then refers to their lack of *proper food*, shelter and clothing as compared with their former supply and says further "We have also intemperance excess and impure air from overcrowding

Mental depression and anxiety are also common Laughter and music, *universal with them* before the war, are now rarely heard Pulmonary phthisis and other purely tubercular diseases, while common enough in the mulatto, were comparatively infrequent in the negro Now, however, tuberculosis is *fearfully common*"

In his reply, Dr Lydston *very properly* remarks "Notwithstanding the horrible crimes perpetrated under the influence of the *furor sexualis* by the negro, particularly in the South, I believe that he compares quite favorably as regards sexual impulses—taking all abnormalities into *consideration*—with the white race The more I see of white men in so called refined society, the more contempt I have for quite a large proportion of male humanity"

Now, as to some of the reasons he offers as explanatory to the questions propounded let me cite a few

1 "Hereditary influences descending from the uncivilized ancestors of our negroes"

2 "The removal of certain inhibitions placed upon the negro by the conditions which slavery imposed upon him"

3 "An incapacity of appreciation of the dire results to himself of sexual crimes"

Again he says "The enormous increase of the negro since the war has had much to do with his physical and intellectual *degeneracy*, and therefore with his criminal propensities As man descends in the scale of differentiation the number of offspring at a birth approximates the multiple pregnancies of the lower strata of animal life Morel, De Monteyel, Hagen and one of our *most eminent* American writers —Kiernan—have conclusively *shown that* multiple pregnancies are most frequent among the degenerate types of humanity The offspring in such multiple pregnancies are defective from an obvious double cause Upon them, all degrading influences act with greater power" Once more he says "The lack of systematic occupation and the forced assumption of responsibilities for which he was by nature and training unfit—to say nothing of the acquirement of vices and profligate indulgences for which he had relatively few opportunities while he was in bondage, and for which he was directly responsible to those whose interest it was to keep him in the best possible condition morally and physically" Finally he speaks some ringing words which I wish might be burned indelibly into the minds of all men but especially medical gentlemen "Ignorance of sexual physiology has led the average white boy, at the age of puberty, to believe that fornication is a necessity, or at least a luxury at which the whole world winks You well know the train of misery following the indoctrination of such ideas This fallacious idea is responsible for much of prostitution and sexual crime Sentimentality and morals aside, the most materialistic of us must acknowledge that sexual purity is wholesome in its effects The remedy for the evils of youth and early manhood is never to begin indulgences that create physical and injurious necessities"

The Chicago *Inter-Ocean* said "Out of thirty two young men in New York City who were recently examined for West Point cadetship, only nine were accepted as physically sound Such a note might well make the young men of our cities pause for a moment's thought Beer, the cigarette, too much amusement, and the hidden vices are making havoc with the physical manhood of all our towns and cities" Dio Lewis said "This species of indulgence is well nigh universal, and as it is the source of all other forms—the fountain from which the external vices spring, I am surprised to find how little has been said about it"

Dr J D Bond, of Cincinnati, well says "If the progenitors of our boys practice unrestrained licentiousness in wedlock, the transmission of lust is as sure as though the prostitution were not sanctioned by law Any doctor who *recommends* prostitution to cure masturbation is ready to *damn two* souls to save one body and deserves to be hooted in his community"

Dr Percy, in the President's address before the Military Tract Medical Association, said that the most prolific source of prostitution is, "Ignorance of things sexual on the part of all mankind," and held the medical profession correctly responsible in large part for this marvelous ignorance In the same address he said "The vast majority of legalized marriages the world over, but especially in America, are nothing more or less than legalized prostitution Is it any wonder then that the offspring of such unions become weak passionate creatures, a prey to all sorts of nervous ailments, and that sexually they show no stability of character? Is it strange that the product of such wedlock often becomes prostitutes and the employers of them?"

A physician speaking of the vices of young men says "Let us also warn the unhappy victims of follies that are past undoing to improve the means of restoration while there is still hope In its track we find the ravages of loathsome disease, physical, mental and moral degradation, disrupted homes, asylums filled with imbeciles and graves that have kindly thrown the mantle of oblivion over wasted lives" So much for licentiousness Let us now refer briefly to heredity and crime in general

In a little work entitled, "The Jukes," R L Dugdale reports that in seven generations a single abandoned home bequeathed to the world 1,200 descendants, a large majority of whom were idiots, imbeciles, drunkards, lunatics, paupers, prostitutes and criminals Seven hundred and nine of the 1,200 have been registered and their history studied in Mr Dugdale's work He finds that while harlotry in the community at large averages nearly two out of every hundred women, it was over twenty-nine times more frequent among the Juke women In the line of Ada Juke, better known as Margaret, the mother of criminals, it was found that crime among the men was thirty times greater than that in the community in general Of the 535 children born, nearly 24 per cent were illegitimate Among the women of the Juke family, the number of paupers was seven and one-half times, and among the men nine times greater than in the community at large Among the sick and disabled of both sexes, nearly 57 per cent were paupers Summing up the crimes and pauperism of this single family, Mr Dugdale estimates that in seventy-five years it cost the public over $1,250,000, without reckoning the cash paid for whisky, or taking into account the establishment of pauperism and crime of the survivors in succeeding generations, and the incurable disease, idiocy and insanity arising out of this debauchery and reaching farther than we can calculate "

Dr Van Fleet, in a paper read before the New York Academy of Medicine said "In carefully looking over the ground, we find that we can divide the causes of crime into two groups, namely, the moral and the physical They are so dependent upon each other and both so important that we find our thoughts constantly drifting backward and forward between the two " He says again in speaking of defective vision in certain criminal classes "To them things are never as they seem, they think the whole world is wrong They become criminals from necessity "

Dr Bayard Holmes, of Chicago, in a paper read before the American Academy of Medicine said "Only a very small number of physical defects, such as blindness and deafness, can be referred to heredity, but this is not the case with mental defects, or with those forms of mental incapacity which result in delinquency or criminality Thus we find that the insane are, in a very large per cent found in families in which the taint is hereditary " Again he says "It seems to me that the medical profession ought to bring an indictment against that method of doing business which keeps one-fourth of our men idle all the time, all of our men idle one sixth of the time, all men at work long hours when at work at all, and still puts into factories and shops children and women It is the settled policy of capital to have at hand a large body of idle starving workmen From this condition of warfare in business, from the idle workers necessary to wage-slavery results our great burden of voluntary and involuntary able-bodied dependents Of the criminal class 45 per cent are essential criminals or criminals from defect The criminals have increased in the United States from 1850 to 1890 over 400 per cent, while the population has increased only 180 per cent There is every reason to believe that the great increment in crime during the past forty years has come through unjust and unethical laws and their inhuman administration, and through the production of a large class of landless, homeless, and generally idle people through the natural evolution of society "

The late Dr O W Holmes seemed to recognize the influence of heredity, especially in the moral world, for once upon being asked when the training of a child should begin, he replied "A hundred years before he is born "

Superintendent Byrnes, of the New York Police Department, says "I know that children of criminals are very apt to become criminals themselves "

It is hardly necessary for me to call your attention in detail to the evils following cancer, tuberculosis, syphilis and gonorrhea, for all physicians know only too well the dire results to homes, wives and children and therefore to the State of these diseases

Now while I am ready to admit, as every intelligent medical man must admit, that disease and numerous hereditary defects may and do follow the drink, morphin, chloral, cocain and other evil habits, yet it is not true in general that these habits depend upon some internal *vis a tergo* over which the victims have no control, and that they necessarily become such victims and are therefore irresponsible for their conditions This teaching I believe to be highly unscientific and immoral The gentlemen who have drawn such conclusions have in my opinion been illogical in the extreme and their data do not warrant their opinions

If, according to these gentlemen, every drinking man is diseased in a greater or less degree and therefore more or less unaccountable for his acts, and if the criminal is such from necessity, surely we are a people in a deplorable condition, for at least 90 per cent of our adult male population drink in some degree, and they together with our entire criminal population can have little or no moral responsibility for what they do But they are accountable, they can quit their drinking and control their appetites they can refrain from crime and they do so under circumstances which prove the truth of the assertion Why, in the matter of drink, it is well known that many, of their own free will, give up their cups never to return to them Multitudes more by simply embracing Christianity stop *at once* their drink habits and criminal practices, but you never hear of the multitudes being immediately cured of smallpox, scarlet fever, tuberculosis or puerperal fever by such treatment

The trouble is with these drinkers and criminals, in the main, that the rewards for reformation and the punishment for persistence in their evil courses is not sufficient to bring into play their will power Now, accepting the facts furnished by the gentlemen from whom I have freely quoted, although in some instances drawing different inferences from those facts, allow me to present what I believe to be the legitimate conclusion of these facts, many of which may be confirmed by every physician in his own experience

1 Inheritance, ignorance and idleness are fruitful sources of disease, crime and vice

2 Poverty, overwork and slavery to corporations is a fruitful source of disease, crime and vice

3 Every human being is entitled to a home, proper food, clothing, education and employment together with his earnings, failing to secure which he becomes a criminal and vicious in cases too numerous to mention, therefore it is the duty of the State to secure to her citizens these things

4 Ovariotomy and testiotomy should be done for

al crimes, insanity and some other constitutional
ases and upon the incorrigibly vicious

Physicians should teach the serious effects mor-
, mentally and physically of masturbation, licen-
sness, prevention of conception, abortion, the
k and allied habits, both upon the victims and
r posterity

There is no question but parents transmit to
r offspring tendencies to disease, crime and vice

REFRACTION IN SCHOOLS

Read before the Minnesota Academy of Medicine, Feb 6 1[illegible]

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'his is an age of prevention rather than of cure
; greatest efforts are being made to cure disease
ore disease occurs Can anything more distinctly
mplify the disinterestedness of the physician than
earnest and unremitting efforts towards prophy-
tic medicine? Reflect for a moment upon the
covery of vaccination for smallpox, and the villi
ition endured by its progenitors and advocates
te the active work accomplished by the medical
)fession in all questions involving sanitary reform
d hygiene Observe the earnestness of scientists
they endeavor to prevent the existence of diphthe-
ı, tuberculosis, cholera, etc , by laboriously exhaust
g their very lives over the microscope and test tube
) one can affirm but that the existence of disease
more profitable to the physician than its dissipa
)n, and yet the proudest member of our profession
he who discovers a prophylactic rather than a
ırative measure

Along this line of thought, *one of the* greatest re
rms may be indicated in anything that establishes
ıd preserves the health of the coming generation
he present generation is launched for good or for
'il, and while relief to its necessities is most urgent,
surely can not compare with procedures calcu-
.ted to produce in our descendants a race of people
:rong and vigorous in mind, body and heart It is
)r this now well recognized principle that wise and
ıoughtful philanthropists are engaging with accu-
ıulating energy, in the establishment of kindergar-
ıns, Sabbath and mission schools, gymnasiums, etc
'hey recognize the superlative importance of early
raining, and that the most efficient method of deal-
ng with ignorance, vice and disease, is to emanci-
ıate the race from their existence

The paramount importance of proper and well-
'egulated school-life becomes, therefore, clearly ap-
)arent, and educators should appreciate that in the
sacred and responsible position occupied by them, it
s their duty to carefully guard the body as well as
the mind of the youthful generation intrusted to
their charge

Without doubt, many of the most distressing dis-
eases incident to human existence can trace their origin to the school life of the sufferer Admitting that such pathologic changes are not invariably the primary and direct offspring of improper school existence, but may be the result of the submission of an already vitiated and hereditarily changed constitution to improperly constructed and badly managed school buildings and school life, we can not, even then, as citizens, advisers and educators, shirk the responsibility The tendency of modern civilization leads toward education and progress, and such development should be encouraged Such advantages are shared by rich and poor, by young and old, by the healthy and by the sickly, by those whose ancestors were blessed with vigorous minds and bodies, and by those who can only gaze retrospectively at a line of antecedents cursed by the presence of dissipation and disease

Admitting the existence and operation of a law requiring a proper medical certificate before admission can be obtained to the school, there would still be a large percentage of scholars apparently healthy, but burdened by unfortunate inherited tendencies, capable of development under improper and vitiated circumstances The responsibility of the present to the coming generation regarding school life is, therefore, enormous, and involves such questions as the location of school buildings, with regard to air, space and drainage, the construction of the building itself with regard to window space and the direction of light, proper ventilation, plumbing and drainage, the necessity for good and sufficient artificial illumination, the tendency towards overcrowding, the necessity for medical sanction before admittance to *schools may be obtained* the use of proper drinking water, the providing of separate basins, towels and soap—which is an unquestioned source of contagion, especially of an ocular nature—the construction of desks of different sizes for different ages, so that the pupil may firmly plant his feet on the floor, and always occupy the same relative position to his desk, the construction of desks that are of the proper slant and height, and compel an upright position of the body in reading and writing, thus lessening the tendency to a contracted chest and distorted spine, which are *prime factors in the* production of consumption and spinal disease, the frequent intermission from studies and the change from one study and occupation to another, thus compelling a combined rest of eyes, mind and body, the proper regulation of the *means* of study, such as the distances and color of blackboards, the color of slates, the character of print and the paper upon which it is printed, the necessity for vaccination, the exclusion of contagious diseases, and the execution of advisable quarantine regulations and proper rules or laws, intended to exercise a beneficent care over the sight and eyes of the rising generation, these and many other subjects pertinent to the matter under discussion must appeal to the consciences of those having under their control the health and morals of these embryo men and women in whose hands must shortly be placed the future of our country The scope of this article must necessarily preclude the possibility of even a casual discussion of most of these subjects, and the writer is, therefore compelled to limit his remarks to observations pertinent to the eye, and the pressure exerted upon it, by modern school existence

The deleterious influence of education and intellectual advancement, upon the human organism can not be questioned Not that knowledge invariably goes hand in hand with physical retrogression, but uneducated and untutored races are always superior types of bodily development, to those nations renowned for an insatiable appetite for knowledge

The eye is no exception to the principle involved in this *statement* The eyes of a people engaged in rural and pastoral occupations will demonstrate few, if any, errors of refraction, and in races of a barbaric or semi-barbaric nature such pathologic conditions may be said to be positively unknown

Ramas, who made an examination of 2,000 Mexican school children, found only 88 myopics, 60 hypermetropics and 10 astigmatics He asserts that *pure* Mexicans rarely show *any* errors of refraction, and such deviations are almost invariably found in the mixed races Compare this for a moment with the statistics of the German Empire, the home of the most highly intellectual people in the world The most advanced seats of learning show that 50 per cent of the pupils are afflicted with myopia, to say nothing of hypermetropia and astigmatism, and as if this were not enough, one school in Vienna produces 75 per cent of myopic youths!

Unquestionably, therefore, school life is disastrously prolific of refractive errors, and should be controlled with every means possible by those having such matters in charge, and while it can not be denied that myopia is found much more frequently than hypermetropia and astigmatism, still the existence of the latter conditions must not be ignored, for they often enact an important function in the health and character formation of the scholar

Still, from the very nature of myopia, and the possibility of its extreme development under adverse circumstances, combined with its influence on heredity, it becomes inevitably the most potential factor in the consideration of the matter under discussion

Statistics on this subject are enormous, as from the time of Cohn's investigations in the Breslau schools in 1865–66 to the present time, more than two hundred thousand pupils have been examined by competent observers, for statistical purposes These investigations have occurred in all civilized countries, under all circumstances of age, sex, race, cranial formation, health, heredity, intellectual advancement, and school architecture and management Many of them have followed a certain number of pupils from class to class and from school to school They all point to one inevitable conclusion, viz, that mental culture is obtained at the sacrifice of ocular perfection, and that such imperfections are usually myopic in their nature

It is unnecessary to detail the reports of individual investigators, it being sufficient to remember that such men as Cohn, Jager, Rute, Erismann, Loring, Derby, Agnew, Risley, Hippel, Schmidt-Rimpler and many others of equal eminence, have contributed their time and ability to this work Neither can additional investigation materially influence the consensus of opinion on the subject

Certain facts have thus become established, and as they can not be further proved, our duty lies clearly in the line of an earnest and concerted effort tending toward, at least, a material mitigation of an existing evil These facts may be briefly mentioned as follows

The human eye at birth is normally decidedly hypermetropic Herman, who examined the refraction of 110 children at about the age of 3 months, found them all hypermetropic without exception Some deviations from these statements are recorded by observers who have detected myopia in very young infants by the ophthalmoscope, such instances are however, exceptional, and while doubtless true, immaterial

The eye which shows hypermetropia in later life probably never reaches the emmetropic line, but the eye which develops myopia, gradually assumes a condition of emmetropia, from which point its axis is elongated by circumstances of heredity, health and occupation

The claim that myopia is entirely an acquired disease can hardly be substantiated, when we reflect upon the many instances, observed by all ophthalmologists, where myopia will run from father or mother to every child in the family, such cases can not be coincidences, neither can they result from certain peculiar environments Dr Matais, of Angers France, examined the families of 330 young myopic subjects, and arrived at the following conclusions

1 The hereditary influence of myopia is manifest

2 It exists in 216 out of 330 families

3 Hereditary myopia is characterized by its early appearance, its comparatively rapid development and the high average of its degree

4 Myopia is transmitted from the father to the daughter 86 times out of 100, and by the mother to the son 79 times out of 100

The same author believes myopia to be inherited in 65 per cent of all cases, and claims that hereditary myopia is more sharply defined than the acquired form, and that it reaches a higher degree more rapidly, and complications are more frequent

Dr M Kirchner, of Germany, who has made exhaustive researches on the subject, says that children are most liable to be near-sighted when both parents are myopic, less liable when the mother only is affected, and least so when the father is the source of transmission Boys of myopic parentage are twice, and girls four times, as strongly inclined to myopia, as the offspring of non-myopic parents He thinks that girls are a trifle more inclined to myopia than boys

Schwabe believes that the highest degrees of myopia can invariably be traced to heredity

M Francesque Sarcy, the well known French critic, whose intelligence and veracity can not be questioned even though he is not a member of the medical profession, has some interesting personal experience which he reports in pleasing and picturesque language He begins "I was born near-sighted, dreadfully near-sighted, many physicians assert that persons are never born near-sighted, but only become so Science may say what it pleases, I was born myopic One day, prompted by a spirit of mischief, I got hold of the big silver spectacles which my father wore and clapped them on Fifty years have passed since then, but the sensation I experienced is keen and thrilling to this day I gave a cry of astonishment and joy Up to that moment, I had seen the leafy dome above me only as a thick green cloth, through which no ray of sunlight ever fell, now, oh, wonder and delight! I saw that in this dome were many little brilliant chinks, that it was made of myriad separate and distinct leaves, through whose interstices the sunshine sifted, imparting to their greenery a thousand forms of light and shade But what amazed me most what enchanted me so that I can not speak of it to this day without emotion, was that I saw suddenly, between the leaves, and far, far away beyond them, little glimpses of the bright blue sky I clapped my hands in ecstasy, and was mad with astonishment and delight"

Sarcy undoubtedly had congenital myopia, and in later life he became blind in both eyes In one he ffered a retinal detachment, and in the other a cataract The latter eye was operated upon, and he acired better sight in it than ever before

The existence, therefore, of absolutely direct connital myopia while rare, can hardly be doubted, d the frequent transmission of an inherited ten ency in the tissues of the eye, only requiring favora le circumstances for development, is so evident that rgument is scarcely necessary

The question of the influence of race and nationlity upon the development of myopia is one of some mportance, and has engaged the attention of scienists for many years, but has not yet reached a satisactory settlement

There is greater proneness to myopia in some races han others, but such tendencies can usually be raced to greater intellectual advancement, which is ndicative of greater eye strain Cohn, for instance, hen he examined the Constantinople schools found ery little myopia, owing to the small amount of riting accomplished by the scholars, and the manner in which it was performed The contrast between he eye of the Oriental youth and the German (where he percentage of myopia is easily 50 or 60 per cent nd in extreme instances, 75 per cent) is, therefore, very marked, but the probability is that it is due *not* to nativity *per se*, or cranial formation, as claimed by Stilling (who argues that a low-broad orbit favors the development of myopia) but to indolence, inappreciation of intellectual advancement and mental and moral perversity on the one hand, and entirely opposite qualities on the other The claim of Stilling can hardly be maintained in view of the fact that Pymska, of Dorpat, Russia, carefully examined 338 scholars, mostly of Esthic nationality, and found only 17 per cent of myopes Since these people have broad faces and low orbits, and the proportion of myopes is less than in the inhabitants of western Europe, Stilling's theory can not be correct Pymska feels that the development of myopia depends on the demands made upon the eyes by modern civilization, and not upon the form of the cranium

It has been claimed that the Jewish race is more prolific in myopia than others There seems to be no valid ground for this assumption, other than can be found in the fact that Jewish vocations, the world over, are usually those of shop-keepers, money-changers, etc , which necessitates close application to books and textures In countries where the great mass of inhabitants turn to open air employment, and where the Jew naturally gravitates towards commercial life, no surprise need be experienced if examination of scholars shows a wide discrepancy in the development of myopia, but proof fails to demonstrate the same variance where Jew and Christian are reared alike, and where inherited tendencies from one generation to another can be estimated upon a basis of similarity

Dor claims that "the further south you go, the more normal eyes you find" This statement may not be exactly correct, and has been the subject of debate, still, when it is observed that in countries approaching the equator, where life becomes progressively indolent, application nears a minimum, the noon day and other siestas are frequent and general keenness and intelligence are lacking, it becomes easy to believe that our Southern friends may more nearly approach a condition of emmetropia than those who reside further north

Callan, of New York, examined 157 negro children, varying from 5 to 9 years of age In the lower schools only about 1 5 per cent were myopic and in the higher, about 3 5 per cent making the average about 2 5 per cent In the primary, he found no myopia

Fox has examined the scholars of the Indian schools of Carlisle, and found only an average of 2 per cent of myopia Examinations have been made in various countries, such as North and South America, the British Isles, Germany, France, Switzerland, Russia, Italy, the Caucasian and Oriental countries, Norway and Sweden, Roumania, etc The result of these investigations may be stated, in the language of Cohn, to be that "in the whole civilized world, in all nations, the number of the short sighted increases with the demands which their school work makes, and from class to class"

The percentage of school myopes in our own country, perhaps, does not exceed an average of 25 per cent , but it is constantly increasing to correspond with the requirements of our advancing civilization This comparative myopic infrequency need not, however, detract from national pride, when reflection is made upon the polyglot character of our citizens Undoubtedly, statistics taken from native born Americans would increase the percentage, and perhaps enable the egotistical enthusiast of our soil to refute the statement that there is on the earth a more studious and intelligent race of people than in the land where the eagle flaps its wings, and the starry flag waves majestically in the wind

The coincident occurrence of advance in classes and myopia is exceedingly interesting and instructive combined, as it is, with a diminishing hyperopia in almost exactly reverse proportions In this connection I can not refrain from quoting the figures of Erismann who, in 1871, examined 1,368 St Petersburg scholars They are as follows

Class	1	2	3	4	5	6	7	9	10
Myopia	13 6	15 8	22 4	30 7	38 4	41 3	42	19 8	41 7
Hyperopia	67 8	55 6	50 5	41 3	31 7	15	32 4	36 2	40

The almost invariable increase of myopia from class to class and the similar decrease of hyperopia is striking in its accuracy The apparent discrepancies in the latter classes may be due to the fact that as a class approaches graduation its number usually diminishes, which would produce a different proportion in percentages The table of Erismann practically corresponds with others prepared on this subject, and is an impressive comment on the effect of modern civilization on ocular refraction, and tends to confirm the belief that the very cause which produces myopia diminishes hypermetropia

If the physical condition of a myopic eye is an elongated axis, what are the abnormal circumstances which produce such an elongation, irrespective of whether the eye has a natural myopic tendency or not? Most text-books furnish an explanation of this phenomenon, but the most comprehensive I find given by Fenner, and take the liberty of quoting his words "They (the scholars) usually sit bending over a desk in a stooping position, the abdominal organs are compressed, preventing the free return of the blood from the head, the insufficient illumination at many schools and colleges necessitates the bringing of the eyes very near the book, so as to obtain a larger visional angle, and as the book usually rests on a desk or table, the head has to be bent over, this posture produces an increased flow of blood to the eyes, while the higher degree of convergence necessary, causes an increased pressure of the lateral recti muscles on the equator of the globe, thus increasing the entire ocular pressure The congestion of the fundus oculi causes softening of the scleral tissue, which gives way under the increased pressure, and the organ is elongated backward (posterior staphyloma), the other portions of the sclerotic coat are supported by the broad muscles The retina is then pushed backward, behind the focus of the dioptric apparatus When this condition once begins, all the causes which first gave rise to it act with increased force, there is a greater stooping posture necessary, because the eyes have to be brought still nearer to the object, an increased convergence is demanded, and the congestion of the fundus oculi increases, consequently, the softening processes progressively augment, causing the posterior portion of the sclerotica;to yield more and more, hence myopia is usually progressive, particularly in the higher grades There is a greater tendency to the development of this condition in youth from the causes above mentioned, because then the scleral tissues are softer and consequently more yielding than in later life With the increase of age this coat hardens, becomes firmer and better able to withstand intraocular pressure, hence it is rare that posterior staphyloma, giving rise to near-sightedness, begins after the twentieth year of life "

Consideration must now be turned towards those conditions of school life which encourage and perpetuate the production and spread of myopia, and the first item that claims attention is that children should not be placed in school at all unless their general health is sufficient to endure the strain It is unnecessary and space does not permit me to impress upon physicians the importance of this assertion, and the large influence exerted upon the eye by the general condition of the patient, but it is unquestionably imperative that we, as medical men, should emphasize the truth to the laity, and especially among those families committed to our care We are, at present, dependent upon personal influence and the intelligence of those people not medically educated, to exclude from our schools those children not physically prepared to enter, but the time should and undoubtedly will come, when every scholar will not only be compelled to show a doctor's certificate before entrance, but will find it necessary to produce a similar document at the beginning of every school year

What, then, are those conditions of school life which directly aid in the encouragement and perpetuation of myopia? First of all, the building itself should be so constructed as to present as few obstacles as possible to the proper exercise of the ocular function, and to give the pupils all the advantage possible in the way of location, space (inside and outside) heat, ventilation, plumbing, general cleanliness, water, basins and soap

The building should be lighted properly and sufficiently, as there can be no question that a paucity of illumination necessitates a closer apposition of books, which in its turn means increased convergence and an encouragement of myopia Just seeks to controvert this statement by claiming no decrease in myopia in the new and well-lighted schools of Zittau, in Saxony, but the experience of others will scarcely support him in his position For instance, in Coburg, Germany, 2,323 children were examined in 1874 and showed an average of 21 per cent of myopia, the same number examined in 1877, after better lighting and seating had been provided, showed only an average of 15 per cent of myopia De Metz, of Antwerp, found only about 2 per cent of myopia in well-lighted as against 5 per cent in badly-lighted schools Other statistics, even more striking than these might be produced to show the importance of proper illumination, but it is scarcely necessary as its principle must commend itself to the mind of any one who gives the subject even a casual observation

The light in the school room should be direct, and not the indirect illumination from the walls of some adjoining building It must be constant, and dependence should not be placed upon the immediate rays of the sun, for this reason, the windows should face the north The most remote portion of the room should be bright, even on dark days, to the extent of receiving an illumination equal to ten candle power Every scholar should, from his place, be able to see some portion of the sky Light should come from the left, and as high above the scholars as the ceiling will admit The total window surface should bear to the area of the floor a proportion of 1 to 5, and the panes should be as large as possible It would be better if artificial illumination was never used, but if it is, a profusion of incandescent electric lights is the best substitute They should be ample in number, properly shaded and brought sufficiently close to the desk to afford an abundant illumination This light is much superior to gas, kerosene, etc, as its color is whiter, is capable of uniform distribution and concentration, and does not heat or vitiate the atmosphere

The question of the construction of seats and desks is one of great importance Seats should permit each scholar to squarely rest the feet upon the floor, thus favoring a natural and upright position, for this purpose, it will be necessary to provide seats of different sizes for individual pupils, who should be seated according to their height The seats should have comfortable backs The desks must correspond in size and have a slightly slanting top, and be far enough away from the head of the scholar (when sitting in an upright position) not to necessitate close approximation of the page of a book Many seats and desks are so illy constructed for the needs of the individual student, as to just allow the head of the patient to emerge from the top of the desk, thus necessitating enormous convergence when attempting to study These defects are usually observed in primary departments, where full-sized desks are used by very young pupils Strict rules are enunciated by Fuchs and others as to the relation which should exist between the desk and seat Fuchs says that "the proper position is that in which the shoulders and pelvis are parallel with the edge of the desk, and the head upright or bent but slightly forward As to the construction of desks and seats, there must be several sizes, to suit scholars of various ages The distance between seats and desks in the vertical direction, must be but little greater than the distance between the elbow and the ischial tuberosity The edge of the desk must overhang the seat about two inches, the scholar can then sit upright "

Rohe does not think it necessary for the desk to overlap the seat, but says that "a line dropped from the near edge of the desk should strike the front edge of the seat "

The object, in any event, is, if possible, to prevent stooping and to compel the scholar to study in an upright position Various apparatuses have been constructed for the purpose of forcing an erect attitude, but as yet nothing satisfactory and practical has been proposed

Attention should be given to the distance and location of blackboards, to prevent their being placed at so great a distance from any scholar as to necessitate a strain in order to see, and to carefully avoid a position where rays of light will reflect upon their surface in such a manner as to obscure the characters inscribed thereon Similar care should be given to the placing of maps, from which scholars from time to time are required to study Some investigators believe in doing away with blackboards entirely, and substituting therefor white surfaces and black crayons, as black writing on white background can be read at a greater distance than the reverse The same plan has been proposed and practiced in some schools with slates, white slates and black pencils are used on account of lessened reflection Good results are claimed Other investigators believe in ceasing to use slates at all, owing to the glistening surface, and substituting in their stead paper and pencil or pen, the paper to possess a non-glistening surface and be non-translucent

School books should be of a size easily handled, and the paper should be reasonably thick, of good quality, and have a dulled surface, some authorities think that yellow instead of white paper is to be preferred The Latin letters are best for all kinds of reading, and it is certain that if Germany would absolve itself from nationalism sufficiently to declare an emancipation from its miserable type there would be less myopia in the Fatherland The letters should be well-printed, clear, distinct and large Cohn insists that all books should be prohibited from schools in which smaller type is used than long primer, a less interval between the lines than one-tenth of an inch a longer line than four and one-half inches, and more than sixty letters to a line

The question of erect or slanting handwriting is one that is much agitated at present Ellinger, in the first place, opposes the practice of inclining the copy-book to the right instead of straight ahead, feeling that it favors the development of myopia However this may be, it is certain that there is variety in the opinions expressed relative to the preference as to erect or slanting writing, with the drift of sentiment favoring the former Berlin favors the inclined writing, but he appears to be occupying a somewhat isolated position, as a tendency of opinion from Shubert, Manz, Konigshoefer, Seggel and others certainly indorses vertical handwriting It is felt that the oblique system favors myopia by an unnatural position of the head, and by the fact that upright writing is usually clearer and more easily read than the reverse Continuous work is detrimental to the health of the eye This can be avoided in the school by often changing from one occupation to the other, as from desk work to recitations, and by frequent intermissions, during which time the rooms should be thoroughly aired Matais claims that at the Military Prytanæum and at the School of Arts and Industry at Angers, myopia is relatively rare, although the hygiene is not better than in the colleges, because the interruptions in work are frequent, consisting in manual work, games or active exercises

Unquestionably, much harm is done by indiscretion in ocular service at home Granting that our directors performed an elimination of all existing school evils relative to ocular hygiene, there would still remain an element beyond their control in the abuses at home Here we have a recapitulation of all the evils already enumerated in school life, to which others are added Provisions are not usually made as to proper desks and seats, light and interruptions in work Children are allowed much latitude as to what they read, and when and how they read it Poorly printed novels are absorbed before and after going to bed, in sitting and reclining postures, by any light that happens to be convenient In view of such abuses which will inevitably exist, especially among the poor and ignorant, the warfare against myopia is not of an encouraging character but it does not absolve us from pressing the battle whenever the opportunity presents If perfection can not be obtained, progress can at least be made, and much benefit will accrue from educating school directors, teachers and the laity who can, in their turn, perform a part in disseminating a knowledge of the subject among those who are less informed than themselves

As a rule, children are sent to school too early in life, and too little attention is paid to the individual adaptability of the child for school life and its requirements It is felt that a child must go to school at a certain age, irrespective of his physical condition, and such generalizing of educational methods is frequently followed by exceedingly detrimental results

Children often go into kindergartens with perfect refraction, and acquire myopia before entering the primary department of the public school The use of the eyes at a tender age, especially in those children inheriting a myopic, tuberculous or scrofulous tendency is exceedingly hazardous Their tissues are soft, pliable and yielding, particularly where such parental predispositions exist, and the confinement and bad school hygiene, coupled with the desk and eye work incident to school life, unquestionably form a combination of circumstances conspicuously favoring the development of myopia

Myopia is rare before the eighth year of life Hypermetropia is the normal refraction of early life Myopia usually begins about the tenth year and reaches its maximum at about the twentieth year Statistics show that the less educated the nation, the more cases of normal refraction are found Hence these early years of life should be guarded from the refining influences of intellectual advancement as much as possible, bearing in mind that it is better to devote our youth to laying the foundation of a strong constitution, and that the rural child, raised upon the farm, with practically no educational advantages until about the fifteenth year, often far outstrips his city rival whose life has been spent in kindergartens and other graded schools

The question as to what shall be done with these children of perverted tendencies is one of great importance Shall they be sent to the public school at the average age, to be thrown into the common receptacle, to be assigned the same lessons, and to be treated in exactly the same way, as the youth of untainted health and robust constitution? Common humanity unhesitatingly answers in the negative Such children should rather be allowed to spend their lives in the open air, with a judicious intermixture of properly assigned manual labor Their early education should be religiously neglected, and every effort should be made to mitigate the unfortunate tendencies of birth by a physical rather than an intellectual life, spent preferably in the country, where the air is good and the surroundings healthy Systematic study should not be begun until about the fifteenth or sixteenth year, after the body is thus strengthened, and the ocular tissues have grown firm and better able to resist the encroachments of myopia Even now, it will be better to teach the child at home, or at some private institution, where its student life can be properly controlled

It may be urged that such advantages are only for the wealthy, and the question may be asked as to what must become of the poor myope This may be exceedingly pertinent, but it must not be forgotten that the compensations of life are somewhat evenly divided, and that myopia, is much more prone to occur among the wealthy and intellectual, than among the poor and illiterate, consequently the necessity for such restrictions in the early career of our youth will not so often be required of the atter class

Can myopia be cured? This is a question which is forced upon us, and must be conservatively answered When once thoroughly established, and decided organic changes have occurred, the probability is that with our present knowledge of the disease it can not be cured, it can only be alleviated That by improved school hygiene, education of the laity, and careful and uniform correction of refractive errors, it is susceptible of material mitigation in a community, is amply proved by the careful and painstaking investigations of Risley and his associates in Philadelphia But it must ever be borne in mind that the only reasonable hope for even partial emancipation must necessarily rest in prophylaxis, school hygiene, an intelligent cooperation of the laity, and a proper correction of the refractive error by suitably adjusted glasses

But while the subject of myopia in youths is of signal importance, we must not lose sight of another class of perverted refractives, viz , the hypermetropes and astigmatics These, it is true, do not possess that element of danger to sight found in malignant myopia, where the disease marches on to posterior staphyloma, detached retina and blindness, but it does mean much, in the possible intellectual progress of the individual, and the attainment of those heights of knowledge apparently demanded by modern civilization

The myopic eye is often a strong eye, capable of performing much work at short range, but the hypermetropic or astigmatic eye possesses attributes quite the reverse, viz , comparative ease in distant service, but great inconvenience for close work The hypermetropic or astigmatic youth suffers from those various symptoms, such as headache, eye-tire, etc , generally classed under the one term, asthenopia, and which have their principal origin in an overtaxed ciliary muscle He goes to school, but takes no interest in his studies, he is called idle, because he gives so little attention to his books, he is classed as stupid, from never knowing his lessons, he is thought to be a complainer, because he frequently has headaches, he taxes the patience of both teacher and parent, whose wonder is excited when the inane, idle, stupid, fault-finding child is transformed into a wide-awake, industrious, healthy student by the aid of a properly adjusted pair of spectacles This is an experience common to every teacher or oculist, and the frequency of its occurrence should be an incentive to active efforts for relief on the part of those from whence relief must come An important matter of this nature can not with safety be left to the laity to settle, for the laity is frequently ignorant, careless and impecunious Some means must be devised by which an ocular examination of each scholar shall be a requisite for entrance into a school, and by which a repetition of such an examination must be made at stated intervals during the scholar's school life Opinions differ as to the necessary frequency of such tests, some feel that they should be held every six months and others that annually will be sufficient Either would be an improvement on the present system, where nothing of the kind is required.

In addition to this, provision must be made by which children who shall be adjudged to possess defective eyes, shall be required to produce a proper certificate from a reputable physician, before admission to the school is permitted Such a specification would exclude work done by opticians, jewelry and department stores, etc

The ideal method would be to have a competent physician appointed by the proper authorities, whose duties shall be to pass upon the eligibility of all scholars, both upon entrance and at stated intervals This would, however, be open to certain objections It would involve a salary which the different boards might be unwilling to pay, and would inevitably impair the efficiency of such a law, by a degeneration into political jobbery Beside this, the appointee would undoubtedly be distasteful to many pupils or parents, which would constitute an obstruction to harmony and an embarrassment to the examiner

In case such a method is deemed inadvisable, the next best procedure would be to require of each pupil a proper certificate from a reputable physician, stating the ocular condition of the applicant, with recommendations for relief if necessary This, again, would be opposed by the people as compelling an ocular examination where it is perhaps unnecessary, thus incurring a useless expense to parents or guardians It is true that a combination of both of these methods might be adopted, and a law passed requiring that each pupil shall pass an ocular examination, by a physician employed by the Board of Education, but leaving it optional with the parent or guardian whether the child shall be passed upon by the school examiner, or taken to a physician of recognized standing whom they themselves shall select This would be a compromise measure but would still be open to the combined objections of both procedures in mitigated form

There is another method of dealing with the subject, proposed by the writer, which may not be considered sufficiently stringent and scientific for enthusiasts on the matter, but which the writer believes to be all that can be accomplished at present and may pave the way for something more energetic in the ture It can be executed at practically no expense our school treasury, will but seldom cause useless pense to parents and guardians, can be universally plied and, if thoroughly accomplished, will give neral satisfaction The idea is simply to have a ysician of recognized ability deliver a lecture or lk on the subject to the principals of the city hools, once a year, just preceding the opening of e schools This talk shall include plain and comrehensive remarks on the anatomy and physiology f the eye, refraction, and how to use but not abuse e eyes in school and home work It will also intruct the principals how to test the eyes, in accordnce with the subjoined scheme Besides this, rinted directions for testing the eyes shall be given each principal, which might read something like his

INSTRUCTIONS FOR EYE EXAMINATIONS

The examination should be made privately and singly, in room apart from the general school session

Place a card of Snellen's Test Types on the wall in a good ight, do not allow the face of the card to be covered by lass

The line marked xx (20) should be seen at twenty feet, herefore place the pupil twenty feet from the card

Each eye should be examined separately

Hold a card over one eye while the other is being examned Do not press upon the covered eye, as the pressure might induce an incorrect examination

Have the pupil begin at the top of the test card, and read aloud down as far as he can, first with one eye and then with the other

If the pupil can read xx (20) test type with each eye and does not, upon inquiry, complain of tired and painful eyes or headache, he may be admitted to school, but if he can not read xx (20) test types with both eyes, or complains of tired and painful eyes or headache he should be sent home with a card of information to the parent or guardian

This card might read as follows

MINNEAPOLIS, Oct 1, 1894

Dear Sir —Your son, John Smith has been examined by me this day as to the condition of his eyes

I believe it to be advisable for him to consult a physician of recognized standing, from whom he must bring a certificate, stating it to be wise for him to continue his studies Some regular oculist is recommended

Without such a certificate he must be denied admittance

Respectfully, MARY JONES
Principal of Douglas School

This scheme possesses many advantages The physician selected to deliver the lecture or talk to the principals, would undoubtedly be glad to do so gratuitously, and much useful and practical information could be deduced therefrom, which would react most favorably on the scholars

The test cards could be procured at a nominal cost, not to exceed 25 cents for each school, and the printed cards of instruction for principals, and the cards to be sent the parents or guardians would cost but little The expense, therefore, of the entire outfit would be so small as to be unobjectionable

Then the test is so simple and easily accomplished, that any one of sufficient intelligence to be a principal of a school could soon master it and examine the pupils with such ease and rapidity that a large school could be tested in a very few days An average of two or three minutes to each pupil would be more time than is necessary, if systematic arrangements were made

The writer is well aware that such an examination is not ideal and is open to objections, but it is better than nothing, is fairly sufficient, can hardly antagonize interested parties, can not savor of medical favoritism, involves practically no expense, and is so simple and practical as to commend itself to all parties concerned In large cities the scholars would unquestionably consult oculists instead of general practitioners, and where the latter *were* consulted the patient would probably be referred to the former Those not financially situated so as to render it possible to consult an oculist in his office could procure equally good services at some dispensary

If such a law were enacted in small towns, at least one or two resident physicians would find it profitable to become somewhat familiar with the subject, or children could be sent to a neighboring city for advice, or, if a fair number of cases were to be examined, an oculist could undoubtedly be procured who would be glad to make a trip into the country for a few days to examine defectives in a tier of towns

The writer believes this to be the only plan for relief that can be procured at present, and as such trusts it may meet with the approbation of those interested in the subject

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TWO EXAMPLES ILLUSTRATING POSSIBLE SOURCES OF ERROR IN THE DIPHTHERIA CULTURE TEST

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The diphtheria culture test, valuable as it is in clinical diagnosis, is not infallible Indeed it would be strange to find it an absolutely certain method, dealing as it does with forms of life confessedly prone to sudden, and at present, inexplicable variations The following examples are cited because they illustrate some puzzling occurrences in routine bacteriologic work, and because they impress us with the necessity of due scientific conservatism in even so apparently simple an operation as the culture test for diphtheria

The first case came to notice in Chicago, in February, 1894 A Prudden swab was kindly brought to the laboratory by Dr J B Loring, of Valparaiso, Ind The swab was obtained from a case which had all the clinical features of true faucial diphtheria, and the provisional diagnosis of diphtheria was strengthened by the fact that diphtheria was endemic at the time in Valparaiso, and that a clear history of exposure could be elicited

An examination of several cover-glass preparations from the twenty-four hours' culture on Loffler's medium showed only micrococci from this case, and a diagnosis of pseudo diphtheria was made, much to the surprise of Dr Loring Four days after the first examination I happened to take up the tube of Loffler's serum which had remained in the incubator since the first preparations were made It was noted that the macroscopic appearances of the culture had changed, for while it had presented a yellowish color during the first two days, it now took on a dirty grayish tinge Microscopic preparations from this four days' culture revealed bacilli in predominating numbers, resembling in every way the picture usually obtained in eighteen to twenty-four hours after the inoculation of Loffler's medium with the material from genuine diphtheria No attempts were made to isolate the bacillus, so that, save for its strikingly characteristic morphologic resemblance, it is impossible to say that it was a true *Bacillus* *diphtheriæ* On this account this example was dismissed for want of corroboration until a second, and more peculiar experience again brought it to mind

On Dec 20, 1894, through the courtesy of Dr L B Tuckerman, of Cleveland, I received a Prudden swab from the throat of a girl, a domestic, who exhibited certain suspicious symptoms of diphtheria She had considerable fever, some pain and extensive redness in the throat, swollen tonsils, and a small, isolated patch of grayish membrane on the left tonsil The patch of membrane did not increase much in extent, the patient was much improved on the second day, and was pronounced well after the third day About a week later the girl again consulted Dr Tuckerman for a debility and depression which had persisted since the acute illness

A tube of Loffler's medium was inoculated as soon as the first swab was brought to the laboratory After twenty hours in the incubator the surface of the medium was covered with an uneven grayish coat resembling an early culture from true diphtheria The usual microscopic examination of stained preparations was made, and as great numbers of irregular bacilli with the morphologic features of the typical Klebs-Loffler bacillus presented themselves, together with a few micrococci, a diagnosis of true diphtheria was made The next day another swab was obtained from the patient, and on subsequent examination only micrococci were obtained from it This happened also with a swab obtained on the third day of the disease Due care was taken in the use of disinfectants in the throat before the swabs were obtained, and there was nothing in the treatment which could account for the strange behavior of the bacteria in this case The *Staphylococcus pyogenes aureus* was subsequently identified as the predominating coccus in the cultures obtained from the second and third days The Loffler's medium employed in the course of these experiments was all of one batch, and was found by numerous control experiments to be above suspicion

A scratch attenuation on a plate of Loffler's medium was made from the first culture tube of this case on December 9 Colonies of considerable size developed in twenty-four hours at the incubator temperature, and cover-glass specimens from several of these colonies showed only micrococci, notwithstanding the fact that the mother culture still showed the bacilli noted in the first examination, in great numbers In thirty-six to forty-eight hours the colonies on the plate assumed a pronounced orange-yellow color, and transfers from these colonies to gelatin tubes gave a liquefying growth resembling the staphylococcus aureus In fact, this species was subsequently isolated and identified in detail

A second scratch attenuation on Loffler's medium from an isolated twenty-four hours colony on the first plate also gave micrococci that proved to be the *Staphylococcus aureus*, though the second plate did not exhibit the subsequent peculiar behavior observed on the first one

After two or three days the plates were removed from the incubator and set aside at the room temperature On December 24, fifteen days after the scratch attenuation, a striking change in color was noticed in the colonies on the first Loffler plate The colonies were no longer orange-yellow, but grayish or white These altered colonies were now examined microscopically and gave vast numbers of bacilli, closely resembling the bacilli seen in the original culture tube, though staining more faintly In order to watch the development of these bacilli, another scratch attenuation was made from the original tube culture on a plate of Loffler's serum For six or seven days, at the room temperature, the growth on the plate, both the confluent lines of the first scratches, and the isolated colonies exhibited the orange-yellow of the *Staphylococcus aureus,* and only micrococci could be discovered in stained preparations Gradually, however, the white growth appeared, first at the edges of the confluent lines, and then at the periphery of the isolated colonies until, at the end of two weeks, the yellow color was entirely lost, and the grayish or white colonies gave hosts of bacilli and very few cocci, in stained preparations Curiously enough, in both of the plates which underwent this transformation, *every colony, either isolated or confluent, was overgrown by the bacilli*

After these failures to separate the cocci and bacilli by the scratch-plate method, several attempts were made to effect separation by the ordinary dilution-gelatin-plate method This was impossible, however, on account of the rapid liquefaction induced by the *Staphylococcus aureus*, as the plate ran down before any other growth appeared Agar plates have not been tried up to the present time

An attempt to explain the results of these experiments presents many difficulties At first sight it would seem easy to assume that, since the bacilli on the plates cropped out only at a late date, and at the room temperature, they must have belonged to some slow growing saprophytic species But it must not be forgotten that in the mother culture from which the plates were prepared, bacilli, indistinguishable morphologically from *Bacillus diphtheriæ*, appeared promptly in twenty hours at the body temperature Further than this, the remarkably close association of the *Staphylococcus aureus* with this bacillus which absolutely refused separation by the scratch-plate method, and by the gelatin-plate method, can not be readily explained, and if it does nothing else, this occurrence forcibly impresses upon us the inadequacy of the plate method of separating bacteria Then there remains for explanation the fact that in three swabs on three successive days from the same patch of membrane in a sore throat, diphtheria-like bacilli appeared only in the first culture, and micrococci, consisting principally of the *Staphylococcus aureus*, appeared in the other two cultures The most probable assumption that suggests itself to me is that this bacillus, which was morphologically identical with the *B diphtheriæ*, was forced to undergo these peculiar changes, both in the throat of the patient, and on the culture media, as a penalty for its symbiosis with the *Staphylococcus aureus*

TOXICS

BY WM F BARCLAY, M D

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A poison is a substance, which when taken into the system is either absorbed or by its thermal action on the parts with which it is in contact produces deleterious effects It may seem strange that almost all toxics are innocent, until they reach the circulation of the blood Their slow or rapid absorption largely determines their deleterious effects upon the system In our observations we are reminded from time to time of the idiosyncrasies of individuals and we selm inquire into the causes of these peculiar condi- ns It is generally attributed to a perversion of nervous system, but in truth is caused by a rapid sorption of the poison and is modified by the power resistance inherent in the individual Hereditary edispositions and peculiar cachexias in persons are similar conditions, and are in no sense identical eredity has not been defined satisfactorily, but the nditions of progenitors are transmitted in an at- uated form, which underlies their maladies

When disease is engrafted into the organism it stroys the equilibrium of the entire physical life, d there is a want of coordination and harmony at is essential to perfect development and health e continued multiplication of these distorted and seased germs can in no way be more advantageously udied than by the observance of the results that llow The non observance of this law *enfeebles* d annihilates entire families and races As to chexias, it is a law of nature throughout the ani- al and vegetable kingdoms that the multiplication likes tends to weaken organic life and, on the other nd, that the aggregation of dissimilars strengthens e protoplasmic results of differential unions The n observance of this truth produces results to which e apply the word cachexia In its application to imal life, it is so well understood and applied in e union of the sexes, that the consequent results e most advantageous The same principles are pplicable to man in his protoplasmic development, d if properly studied and understood are of the ost benign character as to perfect physical develop- ent The vulgar opinion prevails that hereditary iseases are innate and that they lie dormant for a me and then, as it were, explode and destroy their ictims This doctrine is as false as a general rule, s it is ridiculous, as simply a predisposition is trans- itted Were it true, all such weaklings would die n infancy It would be infinitely better for all such o die in babyhood than to live and suffer from in- erited disease The great desideratum for the edu- ated and enlightened part of the human race is to onsider this truth and put it into practical use, so ar as the health, intellect, strength and well being re concerned in the multiplication of the race

It is not difficult for the acute and careful observer o indicate the affiliations that will in a general way insure the best results Divine as well as human laws condemn consanguineous marriages on account of their painful results This great truth has been taught by the most careful, aggressive and learned physicians and surgeons, down through the decades, that syphilis and *scrofula* are identical The views of the immortal Dr Samuel D Gross have been constantly with me, in an experience of over twenty-eight years in the practice of medicine, and have been verified in my observations to my entire satisfaction That the toxic germs of *syphilis are transmissible* in the various stages of the disease is incontrovertible and undeniable It is probable that there is a living germ for all diseases, and as our knowledge increases upon this subject we will be enabled to prevent and cure many diseases that are now believed to be beyond prevention and remedial influences When hereditary disease conditions appear and toxic causes are present, they find an easy access into the system and suitable influences for *their* propagation The blood is the life of the body and constitutes about one fifth of its entire weight, which enables us to understand how deleterious must be the *entrance of* toxics into the circulation, and their effects upon the economy of life

The germ theory of intoxication is so well established that there are few members of the medical profession who deny or question its correctness Toxics enter the circulation of the blood and their action on the normal cells produce toxins and the multiplication of these products bring on pathologic conditions Nothing is more easily demonstrated than that the emunctories throw off toxics All excrementitious matter when re introduced into the circulation is poisonous, urine, bile feces are poisonous and become more so after exposure to the air In diseases many things have to be taken into consideration—the individual, age, sex and other conditions, as well as his environments We observe at *once upon the entrance of a toxic into the circulation* of the blood that all the functions of the body are *impaired to a greater or less degree*, and that definite *poisons are quickly* formed such as ptomaines, leucomaines and others which are nothing more or less than an *altered nutrition* The vital forces are at once disturbed or arrested Primarily the circulation, and secondarily the nervous system are impaired, and a condition termed shock is superinduced This state is a most interesting study to the pathologic student, difficult of *comprehension and explanation* It may be remarked that all the vital forces are similarly affected at the same time The *vis medicatrix natura* can at no time be more carefully studied and understood than when the vital forces struggle for an equalization, and *restoration* of the normal conditions

In the state of shock, nature seems intent upon relieving herself of all effete matter, by the discharge of the contents of each viscus of the body All such efforts should be assisted by artificial *means in* restoring a healthy condition Vigorous health and strength are maintained by proper food, perfect digestion with healthful environment In the germs of organic life, disease takes its beginning by the introduction of toxics, thereby the blood is changed and disease set up Certain predispositions are inherited and the subject rendered more easily affected by specific toxic influences That all persons exposed to the same *influences* are not affected is because of a weakened vital condition thereby rendering them more easily poisoned All are impressed by the same specific toxic influence under similar circumstances Molecular and cell life are great mysteries of which we know very little When the physiologic laws of cell life are properly considered it is evident that the mineral and animal constituents are alike being prepared for the building up of the different tissues that constitute the body

We begin life by the blending *of cells* that are healthy or diseased which determine the ultimate result Farther on we are taught that the blood corpuscles are formed in the spleen and long bones, but I would inquire how they are formed, when neither spleen or bones are present in embryonic development?

In organic growth the circulation is first established, the nervous system follows on, and seems to regulate the entire development of the body The truth I would establish is that disease begins in the cells and that all treatment employed must be directed and applied to the circulation of the blood, that while we may differ as to the utility and importance of remedies, we can not gainsay their benign influences when wisely and judiciously administered in diseased conditions. That a physician can practice medicine and deny the value of scientific medicines is the surest evidence of that want of knowledge to prosecute the work of the sacred art of healing. Toxics are poisons that produce conditions peculiar and distinct in their final results. We are fully aware of many different forms of toxic life, but at a great loss to know by what means they obtain entrance into the body and circulation. We know that food, drink, and the air we breathe are vehicles through which the germs reach the circulation. Contact is necessary, that most infectious toxic germs may be deposited in various stages of incubation, but are the same in each disease. Toxics may be classified as contagious, infectious, malarial and thermal. The vitality of disease germs is variable and in general terms can not be specified. The germs of many contagious diseases have been known to retain their vitality for long periods of time, and to readily prove toxic under favorable conditions. Smallpox, phthisis pulmonalis, scarlet fever, diphtheria, measles and many other diseases may be cited as illustrations of the viability of toxic germs.

It is true that in the organism there is a continual tendency toward toxemia from the normal physiologic processes, which is counter-balanced by the excretions of the body. If for a short time you modify or arrest the eliminations by emunctories of the body, the whole economy of life is disturbed, pathologic conditions are set up and disease established. Elimination must take place through five excretory offices, a disturbance or disarrangement of one or more destroys the vital equilibrium of life. The non- or partial elimination of the effete products of nutrition and disintegration generates toxics. The vital forces are a constant barrier through their tendency to equalization of the constituents of the protoplasm of the blood against the deleterious effects of toxics. The abnormal albumens escape by the kidneys, and destroy the renal epithelium, thereby inflammatory diseases of these organs are set up. It may be stated that leucin tyrosis, and many other toxic products of the liver are the results of imperfect excretion.

The body in a normal and pathologic state is a receptacle and laboratory of toxics. I am impressed, while considering this subject, that by the cravings of the appetite, nature in this way points out that which she in a general way needs for her sustenance. It has been a rule of practice with me to permit the sick to eat and drink that which the appetite craves. I have as yet to see good reasons for changing this course of practice.

There must be a perverted nutrition in order that infection can take place in man, with a single exception, and that disease is syphilis. In order that disease can attack and harm the human body it must first be prepared for it by pathogenic influences. If it were not for this necessity the human family would have perished from off the earth before this time in the world's history. Nutrition is life, and all influences that tend to destroy must first impair it. We must study nutrition in all that pertains to it in its equilibrium, any disproportion in its constituents impairs and unfits it for its normal use. Perverted nutrition leads to the formation of new substances which become toxic. That much can be done to prevent and cure disease by change of location is well established. Many lives are saved and much suffering averted by careful and accurate knowledge of climatic influences. Therapy is too general in its tendencies. A few remedies properly prepared and wisely administered give the best general results.

It is to be lamented that venesection is almost forgotten and neglected in the treatment of diseases. We are taught that our civilization has brought about systemic conditions that forbid the use of the lancet. Is it true that we can bring about the same results by our modern therapeutics? We may enumerate a few therapeutic agents, mineral and vegetable, that aid nature in overcoming the pathologic results superinduced by the introduction of toxics into the circulation of the blood. Gold, arsenic, mercury and iodin with their compounds, and opium, Peruvian bark and their alkaloids, with digitalis, aconite and veratrum virid.

That the practice of medicine is becoming more empirical in the age in which we live, is not true but, on the contrary, is broad and general in research as to causation and treatment. Research as to the origin and effects of diseases is becoming more general and characteristic. Lesions of the body are more carefully and scientifically studied each year, as we bring to our aid helps in the investigations now going on in our laboratories that simplify and determine the causes of disease, as well as the changes it brings about. We now definitely know the causes of many of the most fatal maladies, and apply prevention and cures that modify their ravages, to a large extent, and annually save thousands of lives and prevent much suffering. *Contagium vivum* of the contagious germs is beyond all doubt established. The implantation of vegetable organisms in healthy man, their multiplication in the individual infected and their transmissibility to others producing a disease similar to the original, is the final termination of theories on the subject of contagion.

Parasiticism is established in a number of diseases in man, for instance, charbon, glanders, phthisis pulmonalis, gaseous, gangrene, blenorrhagia, erysipelas, septicemias, as well as in animals and fowls, swine fevers, symptomatic pustule and cholera. Each disease is produced by a microbe, and we must wait for the discoveries yet to be made in microbiologic research for those not already discovered. The dissemination of microbes is universal, and that all are not alike affected is not so easily explained. To a healthy man, the microbe is less likely to be dangerous than to one not in good health, as the individual circumstances are less favorable for development. A modification antecedent in nutrition, renders infection more probable. Fatigue, exposure to cold and wet, severe excitation, bad food and air and many other influences are disease developing causes. Hygienic causes such as excesses in eating, drinking and venery, with loss of rest and bad air develop nutritive disorders in which the cells are perverted, a tainted nutrition set up and among these cells the generative elements of ovule and spermatozoon are formed and by their union will cause the beginning of a new creature whose cells must partake of the disorders of its antecedents. In the entire domain of pathologic research, we know the least about the toxalbumens. As yet our knowledge of the normal physiologic albumen, in health, one of the most important constituents of the blood, is very limited. It is accurately known when there is a disproportion of the red and white corpuscles, as well as the normal fibrinization of the vital fluid, the toxalbumens prevent the formation of the red and white corpuscles It may be here observed that in certain pathologic conditions there seems to be a third corpuscle or something that very closely resembles it *In the field of antitoxic* treatment, there has been in the past fifteen years a large amount of investigation and laborious work in laboratory research, and while we can but deplore the futility of results, so far as toxin treatment has advanced, we must very highly appreciate the advances so far as causation of diseases is concerned While it is perhaps too early to draw positive conclusions as to the method of treatment, it may be fairly stated that thus far permanent results are disappointing Remedies thus far highly beneficial have been obtained from the mineral kingdom, so far as prevention and cure have prevailed

Prevention is better than cure, and each year the profession of medicine is accomplishing more in this direction We are enabled by quarantine to circumscribe plague districts, and by cleanliness and disinfection to prevent the spread of disease The good accomplished in this way is inestimable, and the number of lives annually saved can not be conjectured The pestilences transmitted from foreign countries under our present immigration laws are a constant menace and danger to our people I am unable to recall a single instance of the transmission of pestilential diseases from our country to foreign countries

The constant vigilance on the part of physicians as to the prevention of the spreading of disease in different ways is not estimated or appreciated by the people We seldom hear it referred to but, on the other hand, the profession is frequently charged with carelessness in carrying diseased germs to their patients Great care should be exercised in treating patients suffering from contagious and infectious diseases lest the germs might be carried in this manner From these considerations it appears that when the toxic causes are present, their ready transmissibility and easy access to others, under suitable influences for their propagation, can not be overestimated It is probable that there is a living germ for all diseases, and as our knowledge increases we will be enabled to prevent and cure many diseases that are now believed to be beyond prevention and remedial influences

The profession of medicine is now tending toward specialism, perhaps not in some branches to its best interests, but it certainly is true that the bacteriologist is entitled to a more prominent place than he has yet attained The sciences of bacteriology and therapeutics keep pace with each other and annually many thousands of lives are saved and much suffering averted The causation of many diseases is beyond our present comprehension, yet the processes following primary elementary dystrophies, nerve reaction disturbances are antecedent to nutrition and infection Diathesis is a permanent disturbance brought about by the blending of germs that provoke and maintain pathologic processes It is generally considered a morbid temperament dwarfing all the powers of animal life

In conclusion, the laboratory research and scientific investigation of toxics as to their propagation in cultures and their introduction into the bodies of man and animals for scientific results are the labors of the bacteriologist We do not present you the labor of a volume but rather a short review of the scientific work that has been done in this most interesting field of thought, and its application in the practice of medicine at the present time

North 21st Street

FREE HYDROCHLORIC ACID—IS ITS ABSENCE FROM THE STOMACH A SIGN OF CANCER?

BY RICHARD B FAULKNER, M D

ALLEGHENY, PA

It is important to know whether free hydrochloric acid is secreted by the stomach It is important to know whether its *absence from the stomach is an indication of cancer of that organ* *Prof Wm Osler*, of the Johns Hopkins University, in his excellent work on "The Practice of Medicine," published in 1892, states that, "great stress has been laid of late years upon the absence of free hydrochloric acid in the secretions As an outcome of the enormous number of observations which have recently been made, it may be said that *free hydrochloric acid is absent in a majority of cases of cancer of the stomach* This defect is associated with impairment of the secreting function of the organs The examination should be made repeatedly by the methods already referred to, and with our present knowledge the persistent absence of HCl in the stomach contents, taken in conjunction with other symptoms, may be regarded as highly suggestive of cancer As Kinnicutt expresses it, 'the presence of HCl in the stomach in repeated examinations in doubtful cases is of the greatest diagnostic value, and points very certainly to absence of cancer' Rosenheim has very recently shown that in cases in which cancer develops in the base of an old ulcer HCl may be present throughout the course"

Kinnicutt's statement can not be proved

Rosenheim contradicts Osler If "the absence of free HCl is associated with impairment of the secreting function of the organ," then why should a cancer situated at the base of an old ulcer form an exception to the rule when, as a matter of fact, the ulcers themselves impair and often destroy the secreting function? If Rosenheim is right, then free HCl is absent in cancers not seated at the base of old ulcers If cylindrical celled epithelioma and encephaloid cancers constitute a major portion of all cancers affecting the stomach, as is stated by Osler, and if they have always a particular tendency to develop at the site of ulcers, scars and injuries, according to Paget, Holmes, Erichsen and others, then, if Rosenheim is any authority, are we not to conclude that free HCl must be present in the majority of cases of cancer of the stomach?

To obtain the gastric fluid for chemic examination, Ewald's test-breakfast is advised by the leading text-books This consists in giving a roll of white bread and one glass of water or a cup of tea One hour later, the contents of the stomach are removed with a rubber tube No rule, no instruction of any kind, is given in any text book whereby we may positively know that the stomach is actually empty at the time the test is applied And in cases of stenosis of the pylorus it is not only possible, but probable, that the stomach is not entirely empty However, as a result of Ewald's test, "free HCl should be present, but lactic acid absent" (Prof Wm Pepper, "An American Text-book of the Theory and Practice of Medicine," published in 1894, vol II, page 735) "Should contain free hydrochloric acid, should not contain sufficient lactic acid to be recognized by the ordinary tests" (Osler, page 345) Does it not forestall the judgment to proclaim what *should be* present? The usual object of a test is to ascertain what *is* present

Physiologic chemistry contains no problem more difficult than the determination of free hydrochloric acid in the gastric juice Many authors assert its presence as a normal constituent, and of the analyses *quoted*, in Foster's "Physiology" for example, no two agree, they vary in the proportion of free acid all the way from 05 to 5 per cent

The method of chemic analysis commended and relied upon by two of America's foremost teachers let us critically and briefly examine "The best and simplest test," says Osler, "is that of Gunzburg phloroglucin, 2, vanillin, 1, absolute alcohol, 30 To a drop of the gastric contents (better filtered) add a similar quantity of the reagent on a porcelain plate On evaporation gradually to dryness over a flame, a beautiful rose-red color begins to appear at the edges if HCl is present This is merely a test for a free mineral acid, but HCl is the only one present in the gastric juice This test is extremely delicate, and is not interfered with by albuminates, acid salts, or organic acids" (Pepper, vol ii, page 735) The simplicity of Gunzburg's proceeding would be valuable if the test were reliable But color tests as a rule are *unreliable*, *and this of Gunzburg forms* no exception

Gunzburg's test is not a test for free hydrochloric acid It will show the presence of free HCl where none existed previous to its application Sodium chlorid is a constituent of the gastric juice If lactic acid is present in the stomach contents, evaporation of a drop over a flame will concentrate the acid, which will then attack the sodium chlorid and form free HCl Other concentrated acids will do the same

Gunzburg's test is not a test for a free mineral acid The identical rose-red tint will be obtained when no free mineral acid is present Many foods that contain no acid, mineral or other, taken into the stomach will produce precisely the same rose-red tint of the supposed test Again, there are acids formed in the body, not mineral acids, that will produce the same brilliant rose-red tint of the so-called test For example, in those who possess the oxalic diathesis, oxalic acid is formed in the living body by oxidation

Oxalic acid decomposes dry sodium chlorid when heated, with evolution of hydrochloric acid (Fownes' 'Chemistry," page 658, Brande and Taylor, page 384)

Oxalic acid responds perfectly to the Gunzburg test in the presence of sodium chlorid Oxalic acid exists in many of our food plants, as a salt of potash, and is widely distributed in vegetation Bin-oxalate of potash is found in common sorrel, wood sorrel, and in garden rhubarb associated with malic acid (Fownes,' page 659) It exists in great abundance in tomatoes and in many other acid fruits

Gunzburg's test is utterly, absolutely worthless, as proved by the following experimentation

Experiment 1 With a minute quantity of bin-oxalate of potash, sodium chlorid and lactic acid, Gunzburg's test yields on evaporation over a flame a rose-red tint identical with that produced in the presence of free hydrochloric acid

Experiment 2 With a minute quantity of bin-oxalate of potash, sodium chlorid and tartaric acid, the same brilliant rose-red tint is obtained when evaporated over a flame in the presence of the Gunzburg test solution Baking powders contain tartaric acid A biscuit or a roll of bread, as in the Ewald test-breakfast raised with baking powder, contains tartaric acid And wines contain tartaric acid

Experiment 3 Bin-oxalate of potash and sodium chlorid, dissolved in water, and Gunzburg's test added, yield when heated over a flame a rose-red tint identical with that produced by free hydrochloric acid

Experiment 4 Tartaric acid and sodium chlorid, dissolved in water, and Gunzburg's test added, yield when heated over a flame a rose-red tint identical with that produced by free hydrochloric acid

Therefore, if a patient suffering from a cancer of the stomach were to eat a little rhubarb or tomato or take a drink of wine and Gunzburg's *test* were to be applied *to his gastric contents*, it would be conclusively proved that he had no cancer!!

Uncombined hydrochloric acid is not found in nature, except as an occasional volcanic product (Brande and Taylor, page 216) No mineral acid is necessary in the process of digestion Pavy ("Food and Dietetics") states that HCl has no particular property in rendering the digestive power of the gastric juice more energetic The presence of free hydrochloric acid as a normal constituent of the gastric secretion has never been demonstrated The only way to *positively prove* its presence is to separate the acid, just the same as you would be required to separate arsenic from the contents of the stomach in a supposed case of poisoning by that mineral

The absence of free hydrochloric acid as a normal constituent of the gastric secretion has been repeatedly proved by the most competent authorities, including such original investigators as M Claude Bernard, the profound French physiologist, Robin, Verdeil, and Professor Rogers, the able chemist of the University of Pennsylvania Our illustrious American physiologist, John C Dalton, taught that lactic acid is the normal acid constituent of the gastric secretion He neither taught nor acknowledged the presence of free HCl

Prof Carl Seiler records a series of highly interesting experiments in the *Philadelphia Medical Times*, Feb 6, 1875, which go far to prove that no hydrochloric acid is present in the gastric secretions

The most remarkable line of experimentation ever conducted upon the gastric secretion remains unnoticed by any author, compiler, or text-book, within our knowledge These extraordinary experiments seem to have been forgotten These experiments, unquestionably the most exhaustive, as well as the most authoritative upon this subject, were conducted under circumstances both exceptional and fortuitous, in the physiologic laboratory of the University of Pennsylvania The gastric contents were those of a criminal (Heidenblutt) He was of strong physique, and was executed two hours after partaking of a hearty breakfast Immediately after the execution, his stomach with its contents were removed to the laboratory of the University The lining of the stomach was carefully scraped, and this with the contents of the stomach were macerated, filtered and distilled The examination was made by Robert M Smith, and to quote from an article in the *Philadelphia Medical Times*, Feb 13, 1875 "The following deductions confirm entirely those obtained by Profs F G Smith and Rogers of the University, from the analysis of the gastric juice of Alexis St Martin

"1 The gastric juice presents an acid reaction both before and after filtration and distillation

"2 The acidity in this instance was not due to the presence of hydrochloric acid

"3 Lactic acid did exist

"4 Acid phosphate of lime showed no evidence of its presence

"5 Neutral phosphate of lime did exist, and was held in solution by the lactic acid

"I would take this opportunity of expressing thanks to Mr Geo Hay, a member of the class, and a gentleman of great experience as an analytical chemist, under whose careful supervision these experiments were conducted" Hay states that "free HCl is never present in the human stomach, unless introduced from without, that it would seriously damage it if present, and that it is impossible for it to be found in the stomach, for the reason that its *liberation from a salt of any kind requires the presence of a concentrated acid*, and any concentrated acid in the stomach would quickly destroy the organ *Concentrated acids are not secreted by the stomach Free mineral acid is not a product of the stomach of man or animal Its absence is not a sign of cancer*" The researches of Bernard, Robin, Verdeil, Dalton, Smith, Rogers, and Hay, *all original investigators, entirely agree*

THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH, WITH THE BACTERIOLOGY OF THE STOMACH CONTENTS

BY FENTON B TURCK, M D

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The product formed in the growth of carcinoma of the stomach—whatever it may be—seems early to alter the gastric, secretory and motor functions

The mucous membrane is markedly affected by this product, so that even before the complete suppression of HCl and other secretory changes have occurred a soil is rendered fertile for the growth of microorganisms, especially the bacterium lacticus and in many cases investigated, seemed the predominating microorganisms

In the Chicago Post-Graduate Medical School, clinic (on diseases of the stomach and intestines), the Cook County Hospital clinic and in private practice, it is my routine custom to make microscopic slides in almost every case stained for the detection of bacteria In selected cases of various gastric diseases, pure cultures are made to determine as far as possible the predominant germs

The various cultures are secured from the mucous membrane, by using a revolving sponge introduced into the empty stomach This instrument is named the gyromele (revolving sound) which for bacteriologic purposes is inclosed in a sheath until it reaches the stomach, to prevent contamination from the mouth and esophagus Revolutions are produced by an apparatus not unlike a surgical drill, while the sponge in the stomach revolves and removes the adherent material from the mucous membrane for bacteriologic investigations The description of this instrument with methods of bacteriologic study and investigation will be published in the *Wiener Medical Wochenschrift* (See note)

In all cases of carcinoma of the stomach, numerous colonies of a large variety of germs are found They seem to revel in this superb culture bed It is one thing to find stray germs in the lumen of the stomach which may occur in health (as is often the case in removal of stomach contents through a tube) and another to find the *colonization* of germs adherent to the mucous membrane of the walls of the stomach The whole mucous membrane of the stomach under the changed conditions, is transformed into a large plate culture, so to speak, with a most perfect nutrient media, and unless other evidence is presented to contradict, we shall be forced to consider the infection a powerful and prominent causal factor in producing the rapid alteration of function—the disappearance of HCl, the ferments and final atrophy

This question is further considered in the results of my bacteriologic studies (which will soon be published) of gastritis chronica produced artificially in dogs by first treating the mucous membrane with tannic acid and other irritants, then infecting it with material derived from the mucous walls of the stomach of patients suffering from gastritis glandular in the various stages In cases of simple dilatation and cases of stagnation, when carcinoma was absent, lactic acid bacilli could also be found but were not the predominating germs In these cases, socius ventriculi and other yeast germs appeared more numerous in the cultures

Between carcinoma of the stomach and simple gastritis there is this difference In carcinoma, the carcinoma alone may be sufficient to produce poison or other products which render the mucous membrane a fertile soil and permit germs to develop on the walls In gastritis, the predisposing cause may not be so constant and so powerful as carcinoma, but errors of diet and diseases of other organs also render the stomach a fertile soil for the constant colonization of microorganisms that produce the inflammatory process of a chronic nature In the cultures, the lactic acid producing bacilli are present in most cases, and frequently almost pure cultures appeared in making the ordinary bacteriologic preparations

The method of growing germs in the gastric juice mixed with the mucous and food remnant answers well in some cases In growing the germs upon the mucous membrane of the stomach of pigs, previously sterilized (by fractional sterilization at 50 to 55 cc) it was found an advantage to sponge the surface of the membrane with sterilized starch water Many of the lactic acid bacilli formed colonies more rapidly, and adding starch to a tube culture seemed to increase the formation of lactic acid

There are a large variety of germs capable of producing lactic acid, depending upon the soil and other conditions of heat and moisture All varieties of lactic acid bacilli do not form gas, in fact, the lactic acid bacilli derived from cases of carcinoma of the stomach did not produce gas to a great extent in tube cultures The following cases are selected from a large number for comparison In these cases analyses were made for the presence of lactic acid by the Boas method, carried out with strict precautions, also tests were made with Uffelman's magnet The bacteriologic

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NOTE —Since this work has been completed it has appeared in the *Wiener Medical Wochenschrift*, Nos 1 and 2, 1895 *Eine neue Methode der Diagnose und Therapie gewisser Magenkrankheiten und bakteriologische studien bei denselben*

An error occurred in this article in stating that I use the stomach of birds It should read the stomach of dogs and pigs investigation consisted in cultures upon various nutrient media and we noted in each case the presence of lactic acid of fermentation, according to Boas' method by introducing oatmeal soup at night, the stomach previously cleaned with sterilized water and the contents removed next morning, filtered and analyzed quantitatively It was found in many cases that the mucous membrane and motor functions showed marked changes In carcinoma of the stomach it was often markedly increased, and the bacteriologic investigation seemed conclusive, that a large colonization of lactic acid bacilli occurs

In carcinoma it often occurs that there is no stenosis—no retention of food—especially early in the disease, and after a test meal given according to Boas' method but little of the stomach juice can be procured, and hence little, if any, lactic acid demonstrated In using the gyromele and removal of adherent mucous from wall, cultures were found which proved to be the lactic acid bacteria Upon this and other suspicious evidence an exploratory laparotomy was advised

Mrs Jennie L, age 51, German, appeared at the Post-Graduate clinic Nov 6, 1893, complaining of a diffuse pain in the epigastrium, radiating to the xiphoid appendix, vertical headache, anorexia, constipation Family history negative No symptoms up to two years before, when there appeared a slight uneasiness after eating, gradual anorexia, symptoms gradually increased Emaciation and pallor followed occasional nausea, until her condition presented marked and rapid degenerative changes She was under constant medical care Her case was finally diagnosed as a probable carcinoma of the stomach, and referred to my clinic Examination revealed anemia, cachectic appearance of skin, absence of panniculus adiposus, hair dry and brittle, absence of all but three decayed molars, gingivitis universal, chest organs with liver slightly enlarged Abdomen retracted, palpation of the prolapsed pylorus slightly enlarged, no palpitation Coloptosis and dilated sigmoid, rectum large hemorrhoids, genito-urinary organs negative, blood 3,200,000 corpuscles, hemoglobin 45 per cent No albumen or sugar in urine, indican with aromatic sulphates increased

Clinical examination of stomach contents, Ewald's test made, withdrew 50 cc, reddish yellow color, pungent odor Litmus +, HCl + Total acidity 40, Uffelman's for lactic acid after extracting with Squibbs' ether + +, Rennet action delayed, pepton +

Bacteriologic examination, empty stomach, material removed from the walls with the revolving sponge, four slides, crowded with colonies—bacilli long and short, macro- and micrococci

Cultures On the mucous membrane of the stomach of pigs by stroke cultures ten varieties, six produced lactic acid in bouillon made from the mucous membrane of the stomach of the pig, with sterilized starch water added Along the line of the needle, especially the second line, most of the colonies proved to be lactic acid forming bacilli

Aug 20, 1894, had not seen the patient for six months She was under treatment by assistants Physical examination showed evidence of carcinoma Analysis of stomach contents after Boas' method But a small quantity of stomach contents could be procured, stomach contents washed out, wash water examined, found lactic acid bacilli in colonies

Nov 10, 1894, patient appeared much emaciated, cachectic, operation refused

Dec 5, 1893 J J O'C, age 44, fireman, referred to clinic as a case of carcinoma of the pylorus, complains of slight pain in the epigastrium—a distressed feeling after eating—anorexia, constipation Family history negative Previous history negative up to three years ago, began to have digestive disturbances Lost thirty-five pounds in weight, was disturbed with acid eructations for four or five hours after meals Great mental depression Physical examination, rhinopharyngitis, hypertrophic mouth, caries of teeth, gingivitis, tongue coated and depressions of teeth, chest organs negative, liver and splenic area normal, abdomen retracted Palpation revealed slight thickening of the pyloric region which by the aid of revolving sponge in stomach proved to be the pylorus With the revolving sound in the stomach, the great curvature palpated two seconds below umbilicus: transverse colon prolapsed, rectum negative, genito-urinary organs, slight prostatic hypertrophy, otherwise negative

December 8, blood counts 3,940,000, hemoglobin 55 Urine, no sugar or albumen, indican in excess, stomach contents, test meal Ewald's, light watery fluid, 50 c c filtered HCl+ (Uffelman's) Extracted with ether, lactic acid reaction Dec 14, 1893, bacteriologic slides show a large number of colonizing rods and micrococci December 21, no lactic acid forming colonies appeared

Diagnosis, after complete examination of history, physical, chemic and bacteriologic investigation Gastritis glandularis with hypertrophy of pylorus, drainage and dilatation of stomach Treatment carried out September, 1894, patient showed a probable compensatory hypertrophy of the dilated stomach, for it emptied itself perfectly within five hours All symptoms disappeared and gain of twenty-five pounds

History and examination by the house physicians, Drs. Walker and McGrew The following is a short extract A M C entered Cook County Hospital July 2, 1894, age 45; married Complained of pain in abdomen Mother died of consumption, had digestive disturbances all her life Present illness began six months ago and within last three months noticed tumor in abdomen Emaciating for last three months Examination Abdomen hard mass palpated horizontally with umbilical line, smooth surface, extending to median line, on upper and outer corner of left side of tumor was felt a detached nodule about the size of a dollar, did not move on respiration Appeared in my hospital clinic August 2, 1894, after Ewald's test meal Litmus +, no HCl, total acidity 21, Uffelman's + (extract ether) August 3, removed material from the walls with the revolving sponge (gyromele) for cultures At the same time could palpate the sound in the stomach, showing the tumor to be connected with the anterior wall of the stomach, extending below the umbilicus August 4, stomach contents for lactic acid after Boas' method, which gave positive results, but no complete quantitative estimation was made further than the iodoform emulsion The bacteriologic examination showed few colonies of the lactic acid forming bacilli Positive diagnosis could not be made Carcinoma of the anterior wall was considered Patient died August 9, 1894

Extract from morgue record posted August 11, 1894 Stomach low down in peritoneal cavity, gastroptosis, white raised nodular areas, adherent with omentum and transverse colon Anterior wall of the stomach thickened and adherent to abdominal wall, forming a thickened mass, the peritoneum studded with miliary tubercles

Diagnosis 1, tuberculosis of peritoneum, 2, surgical kidney, 3, ascites, 4, perisplenitis

(Signed) E R LeCount, M D
J W Walker, M D
H W Richter, M D

Maggie L, admitted to Cook County Hospital, July 29, 1894 Complained of pain in epigastric region and vomiting, family history negative, suffered for five months with heavy feeling in region of stomach, until acute pain with vomiting ensued Physical examination, patient considerably emaciated, did weigh 136 pounds, reduced to 100 pounds Chest organs negative, abdomen retracted, half way between the xiphoid and umbilicus was heard a peculiar blowing sound—a bruit—no palpable tumor July 3, examination of the stomach contents after Ewald's test meal, HCl—, Uffelmann's reagent after extracting with ether— +, only the stomach tube was passed, but from the mucus present cultures were made and lactic acid demonstrated in the culture media August 2, 1894 Boas' test meal, lactic acid 15 per cent, patient died August 3, 1894

Extract from post-mortem record August 6, 1894 Stomach contained 635 grams dark clotted blood, on posterior wall of the stomach was a large irregular fungating mass, reaching from the greater to the lesser curvature, not involving the cardiac or pyloric end This involved the tail of the pancreas which was bound closely to the stomach wall Pancreas only a portion normal tissue, the tail made up entirely of a grayish mass which was adherent to the posterior wall and a part of the tumor mass

Diagnosis 1, carcinoma of the stomach and pancreas, troperitoneal glandular involvement, 3, compression of abdominal aorta

(Signed)
E R LECOUNT, M D
T A MCGRAW, M D
L H OCHSNER, M D
H W RICHTER M D
J W WALLER, M D, Recorder

(To be continued)

ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1851-1891

BY JOSEPH JONES, M D, L L D

NEW ORLEANS LA

(Continued from page 272)

CHAPTER VI

RELATIONS OF YELLOW FEVER TO SUNSTROKE

The severer grades of yellow fever, attended with gh temperature, reaching 108 degrees F, and over, id running a rapid course in two or three days to a tal termination, present some symptoms in comon with those cases of sunstroke in which the uscular and nervous prostration is accompanied ith rapid and decided elevation of temperature In ises of sunstroke, which occurred during the month f July, 1873, the temperature reached from 110 to 12 degrees F in the axilla, at the time of death, and robably reached 115 degrees F in the heart and iternal organs Similar elevations of temperature i sunstroke have been recorded by Dr Bennet)owler and others

The phenomena of sunstroke appear to be deendent mainly upon the complex and unstable hemic constitution of the blood, and the dependence f the development of the physico-vital phenomena f the nervous and muscular forces, upon a definite legree of temperature In common with other comlex and highly elaborated organic fluids, which are continuously supplied with oxygen, the definite physical and chemical constitution of the blood can be maintained only within certain degrees of temperature Unless a definite physical and chemical constitution of the blood be maintained, the necessary nutritive elements will not be supplied to the organs and tissues, and alterations in the secretions, and aberration of the muscular and nervous forces are inevitable When the temperature of the blood rises above a certain point it is probable that a new series of chemic actions are developed, and compounds are generated which act as poisons to the nervous system The rise of the temperature in the blood must also be attended with disturbances in the normal electric currents of the nerves and muscles The great increase in the amount of carbonic acid, and the corresponding rapid consumption of oxygen in the blood must also be considered as important factors in the production of that state known as sunstroke It is probable also, that as in certain cases of yellow fever, the center of the cerebro spinal system which regulates animal temperature, as well as the vasomotor centers are involved The derangement of these nervous centers is probably secondary to the chemical and physical alterations of the blood It appears also, that the sudden failure of the heart, when the temperature of the blood rises above 110 degrees F, is due to the physical and chemical alteration and coagulation of the contractile constituents of the muscular fiber of the heart

The remarkable phenomena of "sunstroke," "heat stroke" or "thermic fever," are most generally manifested in individuals working in intensely hot weather in ill ventilated apartments and cellars in rooms artificially heated as in laundries, bar rooms, wine cellars, and densely crowded tenement houses, in those addicted to the intemperate use of ardent spirits, in whom the capillaries of the brain are dilated and degenerated and the constitution of the blood deranged by the impairment of the functions of certain organs, as the liver and kidneys, and in teething children, exhausted by diarrheal discharges, and by the deranged reflex nervous actions, excited by the continuous irritation of the gums and dental nerves

The foul air, loaded with the exhalations from the skin and lungs, and with carbonic acid, of the crowded houses of the poor, in narrow filthy streets, without doubt depresses the nervous and muscular forces, and prevents the proper maintenance of a definite temperature, by a free transpiration from the cutaneous and pulmonary surfaces

The phenomena of sunstroke furnish conclusive evidence that mere elevation of temperature, apart from the action of any distinct febrile poison, may be the source of important changes in the blood, and fatal depression in the muscular and nervous systems The phenomena of yellow fever and of other febrile diseases are rendered more complicated by reason of the disturbing agencies of the heat developed, and it is important that a thorough analysis of the blood, excretions and secretions in sunstroke be made, as forming a basis for the correct appreciation of the mere effects of temperature upon the blood and upon the nervous and muscular systems in yellow fever, independent altogether of the direct action of the febrile poison Unfortunately, medical science is as yet without the necessary data for the institution of such an inquiry

RESPIRATION IN YELLOW FEVER

In many cases of yellow fever, the respiration is accelerated to a comparatively small extent, in cases of great severity, however, the respiration may be greatly increased in frequency, while the pulse may be even below the normal standard, and far below what is usual in other diseases with a similar elevation of temperature The following cases present striking illustrations of the want of correspondence between the respiration, pulse and temperature in severe and fatal cases of yellow fever

Case 1—Yellow fever, black vomit, urinary suppression and death G H, age 33, laborer, native of Germany Came on steamboat from St Louis and had been in New Orleans one week before he was attacked Entered hospital Oct 11, 1873, at 4 P M Was vomiting black vomit when he entered Sick five days before he entered the hospital, and in a state of nervous and muscular prostration and great capillary congestion Black vomit abundant, gulps it up apparently without effort and squirts it on the wall and over the bed clothes At 6 P M pulse 81, respiration 48, temperature of axilla 102 8 Complete suppression of urine, pain in epigastrium, delirious Died next morning at 6 o'clock, fourteen hours after entering the hospital

Case 2—Yellow fever, jaundice, suppression of urine, black vomit, slow pulse, rapid respiration, death J A H, age 30, native of United States, actor Came down the Mississippi River on steamboat from St Louis two weeks before his attack of yellow fever Entered Charity Hospital Oct 15, 1873, 5 P M Comatose, entire surface of a deep golden color, great congestion of peripheral blood vessels and capillaries, face of a purplish mottled hue, conjunctiva yellow and congested, pupils greatly dilated and incapable of responding to the stimulus of light, pulse small and thready Threw up black vomit in the wagon before entering the hospital, mustache and side of face smeared with black vomit Oct 16, 1873, 8 A M, pulse 110, respiration 22, temperature of axilla, 102 degrees 8 P M, pulse 68, respiration 68, temperature 105 5 degrees F Has passed no urine since entrance into the hospital With the catheter, I drew off about one fluid drachm of yellow urine, loaded with albumen, bile and granular casts of tubuli uriniferi and excretory cells of kidney Upon standing, the urine let fall a heavy deposit of urates The patient died three hours after this observation, at 11 P M

It is worthy of note that in this case with a temperature of 105 5 degrees and respiration 68 to the minute, the pulse was only 68 beats to the minute

I have observed a similar condition, viz, the pulse and respiration of equal rapidity in no case of acute disease, and in fact while the pulse may be greatly reduced in frequency when jaundice supervenes in malarial fever and in pneumonia, and while in many diseases there is no absolute correspondence between the temperature and rapidity of the heart's action within narrow limits, at the same time yellow fever is distinguished from other acute diseases by the frequency with which the pulse diminishes in rapidity after the establishment of the febrile excitement This proposition will be established by a comparison of the pulse, respiration and temperature in various diseases with the observations already recorded with reference to yellow fever

In addition to the large number of cases of various diseases, recorded in the first volume of my "Medical and Surgical Memoirs," the following cases are presented for immediate comparison and definite conclusions

Case 1—Erysipelas of head and face engrafted on malarial fever Patrick O'Hern, native of Ireland, weight 160 pounds, height five feet eight inches, has been in the United States three years, admitted into Charity Hospital, Nov 22, 1876, with intermittent fever, contracted several months before, in the swamps of Arkansas The intermittent fever was arrested by the usual remedies On December 8, the patient was seized with a chill followed by high fever, which continued without remission and on the 9th erysipelatous inflammation of the face appeared The features became rapidly swollen and the inflammation which began on the left cheek rapidly invaded the integuments of the face and head The bowels were freely opened by a mercurial purgative and quinin administered

Date		Pulse		Resp		Temp	
1876		M	E	M	E	M	E
Dec	10		116		28		104 °
"	11	100	114	24	22	103 5°	104 5
"	12	104	112	28	24	104	105
"	13	100	108	24	36	103	103 5
"	14	112	112	28	38	103	104
"	15	104	92	28	32	101 5	103
"	16	92	96	28	32	101	102
"	17	90	108	24	34	100	101
"	18	96	100	28	36	99	102 5
"	19	80	96	24	26	98	101
"	20	84	80	27	32	99	99
"	21	80	80	24	28	98	98
"	22	88	80	27	24	99 5	98
"	23	80	68	28	28	98	99
"	24	68	76	24	28	98 5	100
'	25	68	80	28	24	98 5	99
"	26	88	80	24	24	99	98 5
"	27	76		24		99	
'	28	63	66	24	20	99	99 5
"	29	72	80	24	28	99	98 5
"	30	80	96	28	28	99	
"	31	76		20		97 5	

On the 12th, the patient was placed upon the following

℞	Quinia sulph	ʒi
	Potassa chloratis	ʒij
	Acidi hydrochlorici dil	ʒiij
	Zinc ferri muriates	ʒiv
	Aquæ menth pip	f ℥ij
	Mix	

Sig 30 drops in a wineglassful of water every four hours

The local treatment consisted in painting the skin of the face and head, in advance of the line of inflammation with tincture of iodin These measures finally arrested the progress of the inflammation and on December 20 the temperature of the axilla had fallen to 99 degrees F The following table presents the relations of the pulse, respiration and temperature

The recovery of this patient was satisfactory and complete and he was discharged in good health, capable of performing manual labor

Case 2—Erysipelas of face and head John Toole, laborer, age 50 years, weight 180 pounds, height five feet ten inches, dark hair, dark eyes, dark complexion, admitted to Charity Hospital Dec 23, 1876 Integuments of face bright red and greatly swollen The swelling is so great as to completely close the eyes and to obliterate the features Previous to coming to New Orleans had worked on the levees, near Donaldsonville Has a scar on the left side of the head caused by a blow about three weeks before This injury appeared to be the exciting cause of the erysipelatous inflammation The treatment of this case was similar to that instituted in the preceding case, and with like favorable results The inflammation gradually subsided and after the complete restoration of health the patient was discharged The following is the record of the pulse, respiration and temperature

Date		Pulse		Resp		Temp	
1870		M	E	M	E	M	E
Dec	23	80	76	16	24	98 °	100 5°
'	24	80	80	20	24	98 5	100
"	25	72	72	16	16	96	95
'	26	56	68	16	16	94	96
"	27	58		16		96 5	
'	28	65	54	16	16	98 5	98 5
"	29	64	60	13	12	99	97

Case 3—Rubeola, dark purple eruption, high temperature, death John Chilton, native of New Orleans, age 17, laborer, height five feet, weight 100 pounds, dark brown hair, gray eyes, dark complexion, sharp features, entered Charity Hospital Dec 20, 1876 Patient states that he had been seized on the morning of the 9th inst with a severe rigor, followed by intense fever, accompanied by pain in the head and back December 11, 8 A M, I saw the patient for the first time, face and surface generally greatly congested, presenting a purplish mottled appearance Pulse 155, respiration 40, temperature of axilla 105 degrees F Left lung congested, dull upon percussion, with physical signs of pleuro-pneumonia Painful cough and respiration Evening, rash over entire surface of a deeper color and of more distinct appearance, left lung and lower lobe of right lung congested Pain, cough and jerking labored respiration 8 P M, pulse 156, respiration 47, temperature 106 degrees Alcoholic stimulants, quinin and nutritious diet were ordered, but appeared to produce no beneficial results, neither was the local application of turpentine in the form of stupes attended with any diminution in the severity of the pulmonary symptoms

December 12, A M, pulse 142, respiration 39, temperature 104 5 degrees F, December 12, P M, pulse 129, respiration 42, temperature 105 degrees F, December 13, A M, pulse 124, respiration 35, temperature 104 5 degrees F, December 13, P M, pulse 136, respiration 36, temperature 105 degrees F, December 14, A M, pulse 144, respiration 36, temperature 104 5 degrees F

On the morning of December 14, the patient presented a livid appearance, great difficulty in breathing, dark blotches on his body running together, but more defined on arms, legs and feet Tongue, which had been heavily coated, peeling off, leaving a raw surface Intense thirst, feeble fluttering pulse Died at 10 P M

Case 4—Intermittent fever, congestion of right lung K Orbison, age 26 years, height five feet eight inches, light hair and blue eyes, native of Chicago During the past summer was exposed to malaria in Mississippi and entered the Vicksburg hospital with chills and fever Entered Charity Hospital on December 27, with high fever, furred tongue and congestion of lower lobe of right lung The internal administration of quinin and Dover's powder (2 grains of each every three hours) and of the tincture of yellow jessamine (10 drops every three hours) and the local application of turpentine over affected lung, were attended by the resolution and disappearance of the pulmonary congestion On January 5, the patient suffered with another paroxysm of fever which yielded readily to quinin The following observations were recorded

December 27, pulse 120, respiration 30, temperature 104 egrees F , December 28, pulse 112, respiration 28, temperature 98 degrees F , December 29, pulse 94, respiration 28, emperature 100 degrees F , December 30, pulse 78, respiration 27, temperature 99 degrees F , December 31, pulse 80 espiration 24, temperature 98 degrees F , January 1, 1877, ulse 72, respiration 22, temperature 98 degrees F , January , pulse 70, respiration 24, temperature 98, January 3 pulse 0 respiration 30, temperature 99 degrees F , January 4, ulse 72, respiration 24, temperature 99 degrees F , January , pulse 130, respiration 28, temperature 105 5 1

Case 5—Chronic malarial poisoning, general anasarca scites Edwin Toll, age 39, admitted to Charity Hospital March 3, 1877 Native of Philadelphia, mechanic Has been in Louisiana twelve months and has been living in the wamps of Quelito Parish With the exception of syphilis welve years ago, has enjoyed good health, up to August 1, 876, when he was attacked with chills and fever, "swamp ever" The chills have continued at intervals up to present ime Pale, anemic, with greenish-yellow tinge of surface Spleen enlarged and painful upon pressure Abdomen disended with liquid Extremities, especially the legs and thighs greatly swollen and pitting deeply upon pressure Urine high colored, moderately abundant, but free from albumen It is probable that the liver has been deranged by the action of malaria, as well as by alcoholic stimulants which he is said to have used in excess Much benefit was derived from the following combination

℞ Quinia sulph ℈i
Pulv digitalis
Pulv scilla āā grs v
Extract rhei
Extract aloes
Extract colocynth comp
Gamboge āā grs x
Mix

Divide into ten pills, one pill every six hours

The action of the kidneys was promoted by cream of tartar in drachm doses, three times a day After the bowels were freely moved by the preceding measures, the tincture of bark and quassia, together with quinin and iron were freely used and with marked benefit Under these measures the dropsical effusion disappeared and the complexion assumed a healthy appearance The following observations were recorded

Date	Pulse		Resp		Temp	
1877	M	E	M	E	M	E
March 5	93	93	20	22	98 °	100 °
" 6	78	90	18	21	99	99
" 7	80	86	22	23	98	99 2
" 8	86	85	22	22	98 2	99
9	84	86	22	23	98 2	99
" 10	85	86	23	24	101	100
" 11	76	78	22	22	99	99
" 12	80		23		98 2	
" 13	82		23		98 2	

Case 6—Acute mania, general paralysis of lower extremities Patrick J Fitzpatrick, age 40, native of Ireland Has resided in New Orleans thirty years Admitted to Charity Hospital, Feb 20, 1877 Can give no coherent account of himself Laughs, cries, screams, crows like a cock, preaches and talks wildly and incoherently Religion and military affairs appear to occupy his mind chiefly Ofttimes repeats the prescriptions, as I give them to the student, passing from bed to bed, hearing appears to be very acute Does not rest at night can not stand on feet but falls forward Blisters to back of neck and bromid of potassium and hydrate of chloral, as well as minute attention to the condition of the bowels appeared to afford some relief and to moderate the ravings to some extent The case however, appeared to be but little improved when I gave up the case on March 15

The following observations were recorded March 8, pulse 100, respiration 24, temperature 99 degrees, March 9, pulse 100, respiration 25, temperature 99 degrees March 10, pulse 98, respiration 24, temperature 99 degrees, March 11, pulse 80, respiration 24, temperature 99 degrees, March 12, pulse 85, temperature 98.2 degrees, March 13, pulse 85 respiration 24, temperature 98 2, March 14, pulse 88, respiration 24, temperature 99 degrees

Case 7—Double pneumonia supervening in malarial fever James Rooney, native of Ireland, age 30 years, light complexion, weight in health 165 pounds, height five feet eight inches Stone cutter by trade, has been in America four years, but has not worked at his trade during this time In November, 1876, he obtained work on the Jackson railroad, and labored in mud and water up to his knees Two weeks after beginning work in the swamps, was seized with chills and fever, and returned to New Orleans Was sick one week before entering the hospital and during this period had little or no attention Admitted to Charity Hospital, Jan 24, 1877 I saw him for the first time on the 25th, found upon examination that the entire right lung and the lower portion of the left lung were completely solidified All respiratory sounds with the exception of the tubular breathing were absent from the right lung Expectoration very scant, respiration hurried, great congestion of face, with purple lips and tongue, rapid pulse and high temperature, absence of chlorids from the urine

Notwithstanding the unfavorable and almost hopeless aspects of this case, the persistent use of quinin, Dover's powder, and alcoholic stimulants, carbonate of ammonia and nutritious diets and the local application of turpentine, were attended with marked improvement of the symptoms The chlorids returned to the urine, the left lung was restored and portions of the right lung manifested crepitant, subcrepitant and mucous rales A large cavity found in the superior and middle lobes of the right lung During the breaking down of the lung tissue, the patient suffered from hectic fever, profuse sweats and great exhaustion Convalescence although slow was finally and completely established

The following observations will illustrate the relations of the pulse, respiration and temperature in this grave case

Date	Pulse		Resp		Temp	
1877	M	E	M	E	M	E
Jan 25	120	116	30	25	101	103 5°
" 26	112	108	28	32	101	101 5
" 27	104	108	28	25	101	102
28	100	100	25	32	100	103
" 29	96	100	32	28	100	101
" 30	96	100	25	32	100 5	102
" 31	84	92	25	24	100	100
Feb 1	84	80	28	28	100 5	100 5
" 2	86	92	25	25	99 5	101
" 3	76	92	25	32	100	101
" 4	84		30		100	
" 5	84	96	24	25	100	101
" 6	96	108	25	28	100 5	101 5
" 7	104	108	25	32	100	101 5
" 8	104	112	25	26	100	101
9	104	104	24	28	100	101
" 10	92		25		99	
" 11		120		28		102
" 12	108	112	28	24	100	101 5
" 13	100		32		100	
" 14	112	120	25	24	99 5	101 5
" 15	120	116	25	20	100	101
" 16	100	100	28	32	100	99
" 17	100		28		99 5	

(*To be continued*)

NERVOUS DISEASE IN EARLY SYPHILIS

Read before the Chicago Academy of Medicine October, 1894

BY G FRANK LYDSTON, M D

Professor of the Surgical Diseases of the Genito Urinary Organs and Syphilology in Chicago College of Physicians and Surgeons Surgeon in charge of the Masonic Hospital of Chicago Fellow of the Chicago Academy of Medicine Lecturer on Criminal Anthropology in the Kent Law School Fellow of the American Academy of Social and Political Science, etc

(*Concluded from page 276*)

Wille, several years ago, made an exceedingly valuable analysis of the psychoses due to syphilis, which he found were divisible into the following classes 1, irritative psychoses based on cerebral anemia following syphilitic infection even from its very beginning, 2, simple inflammatory psychoses due to meningitis and cerebral softening, 3, neoplastic psychoses proceeding from cerebral meningeal gummata Griesinger states that when acute mental disease affects patients during the secondary stage of syphlis, it will be chiefly those whose brain is organically affected, who have previously presented symptoms of abnormal cerebral activity or who come from neurotic families

Wille says that mental symptoms may appear two months, or even two weeks after infection, certainly with the onset of the secondary symptoms Hildebrand has had very similar experience

Leubuscher was the first to establish the existence of mental symptoms during the secondary period Prior to his article these had been regarded as tertiary accidents

Berthier, some twenty-seven years ago reported several acute cases of insanity occurring during the secondary period Fournier has described several cases of insanity, due to secondary syphilis, varying in type from confusional insanity to cataleptoid states

Mickle has observed several cases of insanity due to secondary syphilis in which the psychic effect of syphilis was similar to that of alcohol Clouston substantially agrees with Wille He says the psychoses occur in the secondary stage of the disease, coincidentally with the eruption, and are curable and rare

Cadell reports a case characterized by mental excitement and restlessness which reached its height seven months after the initial lesion, and five months after the appearance of the secondary symptoms, with the onset of which the mental symptoms began This case consisted of a confusional delirium The patient slept but little, but rode recklessly about at night A year later melancholia has set in, accompanied with paralysis of energy, so that the patient scarcely left his bed He at length made a good recovery

Savage states that constitutional syphilis acts by causing gummata, by producing arterial disease, by producing local degenerations, or by causing a cachetic state Regis states that the psychoses of secondary syphilis occur on the appearance of secondary accidents accompanied with fever, principally at the time of the eruption The onset is more or less brusque, and takes the form of acute or subacute mania or melancholia, preferably mania, it is sometimes of a circular type It is usually of short duration, disappears with the febrile manifestations to which it is due and readily yields to mercurial inunction

Luys, admitting that mania, melancholia, and hallucinatory confusion can occur, asserts that these are but the epiphenomena of a morbid process in evolution

Kiernan's own cases are of great interest

Case 1, was that of a 35-year old Canadian, a periodically drinking tailor, of criminal antecedents and parentage A sister and aunt are prostitutes One brother is idiotic and one a professional burglar Four weeks before admission he had contracted the initial lesion, which healed up without any treatment Two weeks before coming under care he was very morose and irritable, felt chilly sensations all over the body, and was very languid Six days before coming under care he was attacked by a very intense fever, and on the following day complained of insects crawling beneath his flesh, and of men being at the window with guns to shoot him He was markedly terrified When he came under observation he had a temperature of 104 9 He was markedly agitated, constantly in motion, and had an expression of extreme terror He was ordered

℞ Ex conii fl
Ex hyoscyami fl
Chloral hydratis aa 2 00

M S At a dose, in water thrice daily

Quinin was given in 10 grain doses thrice daily, but neither this or the sedative had any effect on the mental symptoms of the fever On the third day the history already narrated was obtained, whereupon the attendant was ordered to rub 30 grains of mercurial ointment into the armpits and clefts of the thighs During the following night the patient slept with relative comfort, his temperature fell to 98 3 He was less agitated, but retained his delusions, and was very little inclined to remain alone This treatment continued two days, the temperature and mental state remaining the same The third day after this a roseolaceous eruption appeared on the forehead and neck This was at first a simple roseola, but in twenty-four hours became pustular and gradually melted down into dark brown crusts, flattened and depressed which, when removed, showed a grayish film bathed in pus underneath The attendant, soon after the appearance of the last, neglected to rub in the mercurial ointment, whereupon the patient's temperature rose to 103 6, and he became violently excited, rushing wildly from one room to another, saying that he was about to be shot, and that spiders were eating his brain His countenance expressed terror and he was always in motion As a means of restraint to secure treatment, a sheet was smeared in mercurial ointment, the patient was wrapped in this and then confined in a camisole The next day his temperature fell to 101 7 Although still retaining his delusions he was much more at ease and less agitated than he had been since his admission Treatment was continued three weeks The mental disturbance became less and less marked The eruption began to cicatrize, and finally healed up in places, leaving thin red lines radiating from the center The delusions grew less and less vivid until they seemed to the patient but dreams of an unpleasant nature through which he had passed He retained some gruffness and irascibility, but this was evidently natural to him and not insanity of manner He made a good recovery and remained in good health

Case 2—A baker, 25 years old, a moderate drinker, had a brother who died insane, and a sister under treatment in an insane hospital When he came under observation he was very much agitated and had well marked auditory and visual hallucinations He saw spiders crawling over him, and guns protruded from holes in the wall to shoot him He heard wolves and lions howling and roaring at him He kept always in motion, but by dint of great effort could control himself and give a few relatively rational answers to questions After recovery he gave the following history Four weeks before coming under treatment he had contracted a chancre About the beginning of the fourth week after this he had a distinct chill followed by a high fever Believing this to be the onset of malaria, but feeling unaccountably depressed, he took 10 grains of quinin and visited Central Park While there he was so frightened at the howling of the wolves that his companion was obliged to draw him away to avoid attracting attention This scene was repeated before the lion's cage He was not afraid of the animals, but of their howling On his return home he became exceedingly delirious and cried out about wolves and lions In two days hospital treatment became necessary On admission he had a temperature of 104 degrees He was fairly nourished He was rather loquacious, which loquacity was at times broken in upon by his hallucinations He was ordered the same treatment as in the previous case, which was without effect The fourth day of treatment a roseolaceous eruption made its appearance on his forehead around the roots of his hair The patient was ordered a mercurial ointment applied as in the other case In twenty-four hours his temperature fell to 99 8 degrees He was much quieter, but retained his delusions and hallucinations The next day a similar eruption to that described appeared on the arms and trunk, which gradually formed flat pustules These became covered with greenish brown crusts, which when removed, showed a grayish-red ulceration beneath, and were surrounded by a copper colored areola The delusions and hallucinations grew less vivid for the next two weeks By the time of the total disappearance of the eruption (at the beginning of third week) they disappeared also, leaving the patient in a dazed condition He remained relatively stationary for about two weeks, when he gradually brightened up, and recovered, four months after admission

Case 3—An Irish American, 32 years old, came under my care with a decided corona veneris and temperature of 103½ degrees He was in a state of hallucinatory confusion similar to those cases already described and he was wrapped up in a mercurial ointment sheet The eruption pursued the usual course With its gradual fading the vividness of the patient's llucinations—which chiefly related to locomotives behind m—grew fainter, and his motor agitation grew less Two onths later he had passed into a cataleptoid state, from s he emerged into a state of maniacal exultation with a erbigeration resembling that of katatonia This passed to a state of depression lasting a month From this the tient recovered and has since remained well

Kiernan comments upon these cases as follows "These cases resemble those of Cadell and Mickle heir symptoms do not agree with those found by eubuscher, Albers, Englested, and Gros, in that in one was to be found any evidences of hypochondria r of syphilophobia, but certainly these are present n other psychoses and may be produced, as Leides orf and Savage have shown, by moral causes alone n luetic cases I do not believe that these cases hould have a place otherwise than with the confu ional insanities, and this view is also held by Regis hey are simply the result of a systemic exhaustion which, as I have elsewhere shown, is produced by many causes"

To the mind of the author of the present paper, the toxin view of such cases is the most logical one An instability of cerebral structure and function, moral and mental influences, alcohol and previous cerebral irritation from any cause whatever, may act as the factors which determine the toxemic process to the brain, but the intoxication of the brain by syphilitic toxins, is probably the essential factor

My friend Dr Norbury, late of the Central Hospital for the Insane at Jacksonville, Ill , has reported two cases occurring during secondary syphilis, one of which was associated with a primary sore which had not yet disappeared As both cases are complementary to the series which I have to report I take the liberty of presenting them in full

Case 1—A man, aged 21 years, who contracted syphilis three months previously A phagedenic ulcer had formed, and was not quite healed when first examined There was general enlargement of the gland, mucous patches in the mouth, and a pustular inflammation of the forehead He was then under treatment for syphilis, and had been for some time, so that the manifestations of the disease were modified by the mercury he was taking The cerebral symptoms were briefly insomnia headache followed by somnolence, and later by a somnambulistic state The last condition was first noticed while attending a party He had a severe attack of headache, with vertigo asked permission to lie down, was shown a bedroom, and his recollection ends with his lying upon the bed He reappeared in the dining room after a short absence, and much to the astonishment of all, was quite devoted to a young lady with whom it was known he had previously quarreled She could not account for his devotion, excepting by the belief that he had been drinking His friends, fearing that such was the case, invited him to remain all night In the morning, when told of his reappearance on the floor, and his attention to the young lady, he denied all recollection of it whatever, and accused his friends of joking He further denied taking liquor of any kind

Ten days later a similar attack, with the same prodromes occurred On this occasion he left home, and when he regained consciousness found himself in a hotel in a city forty miles distant How he came there, how long he had been away from home, or what he had been doing he knew not He returned home, and in a few days later renewed the trip This time it was forty eight hours before he regained consciousness As before, he had no recollection of what had occurred A third time he started for the neighboring city, but was overtaken by his brother at the railroad station When accosted by his brother he appeared natural in his behavior, but was not subject to external influences, was seemingly in deep thought, was more or less automatic in his movements, and would not converse When he regained consciousness he was greatly surprised to learn what he had done

When Dr Norbury saw him on the next day, he was worried, melancholic, and self accusative After satisfying himself that it was undoubtedly a case of syphilis, the Doctor put him upon the iodid of potassium, and also directed him to continue the mercury About three weeks later he reported again, saying that he had not been troubled since he first saw me, excepting with headache, lasting for a short time He stated that he contemplated going to Hot Springs, Ark , and this was the last time the doctor saw him It has since transpired that he returned home in due time very much benefited, and is now in a normal mental condition

Dr Norbury's remarks upon this case are of interest It is worthy of comment that he entertains essentially the same views as myself regarding the possible importance of vasomotor disturbance in early cerebral syphilis

'The strangeness of the symptoms, the departure from the ordinary type of organic disease, and the somnambulistic manifestations, all point to some perversion of the circulation, or an abnormal condition of the blood itself, affecting the supreme cerebral centers If the cause was perverted circulation, we do not know the actual condition of the brain under these circumstances It is reasonable to conjecture that alteration in the cerebral circulation was the cause, when we consider the distribution of the arteries and the physiology of sleep

"The arteries which supply certain areas of the convolutions may be affected, causing activity of the circulation in these vascular areas, and as a result, somnambulistic dreams The affection of the arteries may be either vasomotor disturbance, or cell proliferation within the walls of the vessel of the pia, causing diminution of the circulation, and consequently, malnutrition and lessening, or perversion of the functional activity of the ganglionic cells in the underlying brain substance If such is the case, the observation of, and comparison with, other cases might lead to localization of the mental faculties"

Case 2—Late secondary phenomena A man, aged 23 years, single (history defective) For six months prior to his admission to the Illinois Central Hospital for the Insane he was confined to his bed at home when admitted he was feeble and emaciated his circulation was poor, and bowels constipated The mental symptoms were those of acute primary dementia He had not spoken for several months, stared vacantly, and apparently was not conscious of his surroundings He was filthy in his habits, had an inordinate appetite, and would eat anything, including his own feces No history of syphilis was given by his friends but evidences of primary lesions were marked Secondary manifestations, such as thinning of the hair of the scalp and skin eruptions, resembling psoriasis on the posterior surfaces of the lower extremities and on the anterior surface of his arms were present No marked superficial symptoms were shown

Acting on the supposition that the case was one of syphilis, I immediately put him on anti syphilitic treatment No marked change occurred for several weeks, except a gradual improvement in his general health At the end of three months he had improved so much that he was able to dress himself and attend to his wants, and was interested in his surroundings Ataxic aphasia soon took the place of the complete aphasia which had prevailed for six months This gradually faded away with the improvement in his general mental condition, and he was able to converse rationally, his articulation becoming perfect He then gave me a history of syphilis contracted two years before The primary lesions were slight, and he had no recollection regarding the appearance of the secondary phenomena He was discharged cured, so far as his insanity was concerned, six months after admission He has gained forty-five pounds in weight, and has all the indications of good health He is now married, and follows his trade, that of a painter and decorator in Chicago One and one-half years have elapsed since he was discharged, and yet he has had no evidence of a return of the disease

Regarding this case Dr Norbury says "The case is interesting because of the long duration of functional disorder of the brain, and the subsequent complete recovery, with no evidence whatever of organic change The pathology of the case can probably be explained by conditions similar in nature to those in the preceding case, namely, an arteritis not sufficient to produce organic changes, but so far advanced as to affect the nutrition of that part of the brain presiding over the intellectual faculties The coexisting aphasia locates the disturbance in the vicinity of the Sylvian artery, for we all know that impairment of speech is due to the involvement of the terminal branches of that artery"

Although the date of the appearance of brain symptoms in Dr Norbury's second case was two years after the chancre, it still must be classed as an early lesion of syphilis, inasmuch as it was associated with typical secondary lesions It must be remembered in this connection, that the duration of the disease is not always a criterion of the period at which the evolution of syphilis has arrived

Eruptions characteristic of the secondary period may appear very early, or they may be retarded until long after their usual period of evolution The point to which the evolutionary progression of syphilis has arrived, is often a better criterion of the pathologic age of the disease, than the period of time since infection

TREATMENT OF NERVE DISEASE IN EARLY SYPHILIS

The treatment of nerve disease in early syphilis is well understood to be that of the specific affection upon which it depends, hence a discussion of the therapeutics of the subject may seem to be a work of supererogation There are, nevertheless, numerous highly practical points which are quite generally overlooked

Prophylaxis of nerve disorder is an important feature in all cases of syphilis It is to be remembered that the nerve disturbances of the early period are not only important *per se*, but they may constitute the point of departure for later and more serious disease It is well also to bear in mind that certain factors may produce nervous disturbances which do not at the time produce symptoms, but which none the less lay the groundwork for serious organic nervous disease at a later period

Inasmuch as vasomotor neurosis is probably an important factor in syphilitic nerve phenomena, the avoidance of all causes of disturbances of the sympathetic is a prime indication Instability of vasomotor equilibrium may often be avoided Most surgeons are aware that tobacco and liquor are injurious to syphilitics, but comparatively few could give other than empirical reasons therefore The toxic effect of these drugs upon nerve protoplasm and upon the sympathetic ganglia is a very powerful predisposing factor in brain and nerve disease in syphilis By them the foundation is often laid for subsequent disease of a very serious or even fatal character Mental worry or overstrain, mental excitement and sexual excesses constitute powerful predisposing factors,—especially to cord disease If the patient be given a clear understanding of the true reasons for abstinence from these injurious factors he is likely to be much more tractable In cases with a distinct neuropathic taint, hereditary or otherwise, the points which have been made are of special importance

The curative treatment is in the majority of cases mercurial, first, last and all the time, but there are certain special therapeutic features which are of greater importance than in other phenomena of syphilis In the ordinary forms of syphilitic phenomena, a moderately active course of treatment usually suffices and a few days delay in getting the disease well in hand, is of no consequence When nerve involvement exists, the treatment must be very energetic indeed, if we would avoid irreparable damage to delicate and important nerve and brain structures The problem in such cases is, how to get the patient under the full physiologic effects of mercury most speedily As a rule, internal medication alone can not be relied on, some patients and especially those with nerve phenomena can not tolerate the internal use of the drug at all The hypodermic method is much quicker and more reliable, but not all patients will submit to it Taken all in all, the inunction method usually proves the most satisfactory. Where practicable, the internal use of the protiodid is combined with it A point of practical value is the fact that the drug acts best when applied as nearly as possible to the location of the nerve implication. Inunction of the neck and scalp are most efficacious in cerebral disturbance, while inunction of the region of the spine is quite effective in cord symptoms It is necessary to practice inunction elsewhere, in order that a sufficient quantity may be absorbed

Cases are met with in which mercury seems to be ineffectual and we are compelled to use the iodids. Such cases are rare, so rare that I suspect some of them to be instances in which the fault lies, not with mercury, but with the manner of its use While the mainstay of treatment is mercury, there are certain adjuvants which are of great value It very often happens that a case which appears resistant to mercury, yields quite readily when some one or more of the adjuvant methods are used

As regards the general treatment, hot baths and laxatives constitute the most valuable accessory measures The hot bath is especially useful, and is too often forgotten Measures of counter-irritation and derivation are often of value in early nerve syphilis Local or even general depletion may be justifiable If I were to treat several of my cases over again, I should certainly apply leeches to the neck and possibly even perform venesection Depletion certainly seems logical enough to warrant a trial Electricity, massage and counter-irritation are often of service in bringing under subjection stubborn symptoms with a tendency to chronicity

It has occurred to me that we have specialized too much in our management of syphilis We are so imbued with the view that mercury is the only remedy for the disease, that our treatment is likely to consist of mercury throughout A remedy which appears to me to be of great service in syphilis is gold. It has been my custom until recently, to prescribe the double chlorid of gold and sodium from time to time in nearly all my cases of syphilis It has seemed of special value as a tonic and alterative in cases with a tendency to nerve involvement Gold is a remedy which has been greatly neglected, and it is a matter of surprise that so few good preparations of of the metal are on the market

Within the past few months I have been using the bromid of gold and arsenic and bromid of gold and mercury—(Barclay's formulæ) instead of the sodium salt, and with gratifying results The gold seems to have a special effect preventing sclerotic changes in the tissues affected by the syphilitic neoplasm The bromid in the combination may be of service in correcting vasomotor perturbations which probably exist in early nerve syphilis

It is not my custom to advocate special preparations or formulas, but there is another preparation which I do not hesitate to recommend as a tonic and alterative in syphilis, especially where nerve disturbance exists The preparation known as the three chlorids of mercury, iron and arsenic, (Renz and Henry's formula) has in my hands proved a reliable addition to the therapy of syphilis It has the merit of elegance and definite dosage

The question now arises, How long shall this treatment be continued? As a matter of principle, I believe that any course of treatment of less than three years duration is open to criticism I am especially inclined to be dogmatic in regard to cases presenting early nerve or brain symptoms

I have been much impressed by some of Mr Hutchinson's cases of nerve syphilis It appeared to me that some of them might have been avoided by proper management Hutchinson's treatment is largely symptomatic If at the end of a six months' course the symptoms have disappeared, treatment is stopped, to be resumed only on the recurrence of symptoms Steady systematic treatment by mercury, iodids and gold, is the sole assurance of safety for the syphilitic

As for the results of this plan I have only this to say After some years of experience with syphilis, I have rarely seen of late, visceral, bone, nerve, or brain involvement in cases in which my instructions have been carried out to the letter Cases occasionally arise in which a tonic stimulant becomes necessary Under such circumstances, I have found the wine and fluid extract of coca of great service

Anemia is sometimes a very important factor in early nerve syphilis Such cases demand iron and strychnia The iron may sometimes be combined with the mercury in the form of the pil duo (mercurial pill with exiccated sulphate of iron) Some cases may require alcoholic stimulants in small amount

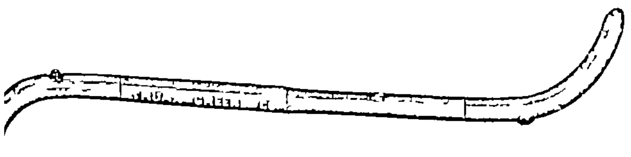
Great care should be exhibited in the management of debilitated syphilitics, else harm may be done by our specifics

A SET OF UTERINE DILATORS

BY HENRY T BYFORD, M D

[From the Transactions of the Chicago Gynecological Society, Jan 18 1895]

I have here a set of uterine dilators, designed for the purpose of keeping the cervix moderately dilated



and thus maintaining uterine drainage in cases of endometritis with imperfectly developed or contracted cervices These are stiff in the center, but will bend quite easily on the end They can be used in a retroverted or an anteverted uterus In my office practice I use the two smaller sizes, and the larger ones after curettage to keep a poorly developed cervix dilated until the tendency to contract passes off It is passed through the internal os twice a week, for a few times, and later once a week until the dilatation has been maintained for three or four months The vaginal fornices should be cleansed with a 5 per cent solution of carbolic acid before they are introduced and an intra uterine application of a 25 per cent solution of ichthyol in glycerin be made after their withdrawal

SOCIETY PROCEEDINGS

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand [illegible] Hotel, Chicago, Ill N[illegible] 1894

(Continued from page [illegible])

Fifth Session, Saturday November 10, 2 P M

Chairman Dr H J [illegible] read a letter from Dr M Cavana, Surgeon N Y P & O R'y, Oneida, N Y expressing his regrets that on account of serious sickness in his family he was unable to be present but wished the Academy Godspeed

The Academy then went into executive session to consider the applications of Drs C B Parker Surgeon, L S & M S R'y, Cleveland, Ohio P H Taylor, Surgeon Central R'y of Georgia, Griffin, Ga Geo W Crile, Surgeon C C C & St L R'y, Cleveland, Ohio, J G Davis Chief Surgeon L N A & C R'y, Chicago, Ill, A D Bevan, Chief Surgeon, Iowa Central R'y, Chicago, Ill

The ballot having been cast it was found that all of the gentlemen named had been elected to fellowship

THE USE OF HORSE HAIR IN SURGERY

BY C M DANIELS M D

CHIEF SURGEON N Y L E & W R Y BUFFALO N Y

In presenting this subject I lay no claim to originality in the use of horse hair in surgical practice as it was suggested to me ten years ago, but having used it extensively during the period mentioned, and not having seen the subject referred to but once in surgical literature, I venture to present this paper which will certainly be commended for its brevity

For many years, surgeons have been faithfully searching for the ideal suture, one that would be non irritating, small in caliber, easily adjusted and afford the closest approximation of the skin layers, and this with especial reference to wounds of the face or exposed parts where the avoidance of scars, more or less unsightly, is a great desideratum

Catgut, silk and silkworm gut have long been used, but in the first we have a rapidity of softening and relaxation that will not infrequently result in a gaping wound In the second, the resulting "stitch marks" which are fre- quently long in disappearing added to the occasional irrita- tion, and in the silkworm gut the rigidity of the suture it- self makes each undesirable in superficial wounds and all usually require dressings or coverings held by bandages which are both disagreeable and cumbersome, especially when the patient is able to be about or upon the street I speak with special reference to those wounds which in themselves are not serious enough to confine the patient, this being the class of cases where I feel free to recommend horse hair sutures and upon which I note the following points

1 Instead of a large or medium sized needle as required with even small strands of catgut, silk or silkworm gut, with the horse hair a small eye needle, curved or straight, accord- ing to the preference of the surgeon, can be used and thus minimize the size of each puncture of the skin

2 Horse hair, when prepared as I will suggest later, has a firmness that will give support to the skin and very mate- rially aid in keeping in approximation the edges of the same, and more nearly resemble silkworm gut in its action in the tissue

3 Where wounds are both lacerated and contused, with

the fine needle, we can pick up many small but valuable parts which may be saved by gentle adjustment, and I will mention here that success, in any case, depends upon the care used in the introduction on one side, and exit on the other, of the needle near the margin of the cut or torn surface which should always be at right angles to the incision or skin margin, so that when the tie is made the strand will be of the same length upon the under as upon the upper side, and at a little to one side of the wound line

4 Horse hair sutures can be placed much closer together than other suture material, with less danger of strangulation of the skin margins, this in itself better assuring perfection of adjustment and more satisfactory results and a "reef" or "granny" knot only is required being smaller than the ordinary surgical tie

5 Horse hair *will not* bear any great amount of tension and could hardly be recommended for use in the flaps after a major amputation, except to place between other sutures for the purpose of more carefully approximating the skin margins

6 After the introduction of horse hair, the skin being accurately adjusted and operation having been performed under the aseptic surgical procedures of to day, except in extensive injuries, no dressing is required other than carefully drying the parts and brushing over with a layer of aseptic flexible collodion which, as it dries, will aid the horse hair in holding the skin in position

With special reference to facial wounds, the field for the fastidious surgeon is here a great one, as horse hair at almost any hue of fast colors can be obtained, and he can place almost invisible stitches, from the color of the skin of the albino to that of the darkest African

And now a word relative to the preparation of horse hair for surgical use The convenience of the stable places it in every surgeon's hands and the hair needs only a thorough washing with soap and water, then for two or three days in 1 to 1,000 hydrarg bichlor solution and transferred to 95 per cent alcohol until used I believe that when this material is more generally used and appreciated that surgical supply houses will place it upon the market, and I have already made such a suggestion to one of them and without hope of future reward

DISCUSSION

Dr R S Harnden, Waverly, N Y —The use of horse hair as a suture is to me a recent thing, and only by the advice of Dr Daniels did I begin its use, something like a year ago The Doctor gave me sutures at a meeting of the Academy of Medicine in New York I tried it, and while I feel like praising the suture, I would at the same time speak of its disadvantages While it has many admirable qualities mentioned by the Doctor, the only objection to it that I could find is, that if you are not careful in using it in a wound that is likely to be attended with any tension, you will be disappointed in it as a suture Bearing that point in mind, it is a valuable adjunct to our sutures

Dr J F Reger, Littleton, W Va —A year or two ago I picked up a copy of the *British Medical Journal* and saw something in reference to the use of sterilized horse hair for injuries of the face, and I have had an opportunity of using it three times I have found one thing, that whatever degree of tension you give the sutures in placing them you will retain that same degree of tension throughout the healing of the wound, as it never relaxes a particle that I have ever found, and it makes absolutely no stitch scar While there may be some disadvantages in connection with its use, I have not as yet encountered them I have found it excellent material for face wounds where we desire to avoid an unsightly cicatrix

Dr A C Scott, Temple, Texas—When I was asked to discuss this paper, my first thought was to refuse to do it, inasmuch as knew so little about the subject But I concluded that it would not be right to back down on an invitation of this kind, because I do not believe in backing down. I have never backed down but once in my life, and I do not want to do so in connection with the work of this Academy I concluded that it would be better in attempting to discuss a paper of this kind to know very little about it in the beginning One could receive the points in this paper as they were put forth with an unbiassed mind However, as soon as I came to Chicago I went to one of the public libraries and tried to find something on the subject, but found it was exceedingly difficult to do so in order to get anything satisfactory out of it I find that horse hair ligatures are mentioned as a sort of side issue whenever the subject of ligatures is under discussion It is mentioned in one of our works as a sort of drain, but it seems to be very unsatisfactory as a drain I do not believe the essayist mentioned it as a drain at all

Dr Daniels—I intentionally left that out

Dr Scott—For the purpose of drainage, I tried it some time ago, and it disappointed me in two respects 1, I thought washing it with soap, and then boiling it for a while and dipping it into a solution of bichlorid of mercury would be sufficient to disinfect it I was doing a Syme's amputation To my surprise, I had more pus formation than I have had in a wound for many a day, and because of that fact the rest of the operation was watched very closely, everything rendered as aseptic as possible, and I can not help but think that the sepsis was due to imperfection in the horse hair

2 That brought to my mind this thought, that when considering the use of horse hair we should take notice of the fact that it is subject to certain diseases, and if we are going to use horse hair extensively we will have to pay some attention to that one feature It no doubt has some advantages It is non-irritating when aseptic, and it leaves no scars On that account it certainly has some advantages Another advantage is that for surgeons who do a great deal of emergency work it is always easily obtained In the case I speak of, where I used it for drainage in a Syme's amputation, in this instance, I had a beautiful result I had no drainage tubes with me, and used the hair from my horse's tail which had been properly prepared before I had the operation completed If the preparation I gave that was uncertain and the cause of suppuration in that case, I do not think it will do to prepare it so hastily as a rule I have used horse hair in quite a number of circumcisions, and prepared it in those cases very much as the Doctor has suggested by washing it with soap first, then using the other disinfectants I think the use of it is very limited, and should be, if it is used at all, confined to superficial wounds, particularly wounds of the face Then we have to look very carefully for the tension which is apt to follow I believe that one thing is the main bar to its use The fact is that we have a certain amount of swelling in many of our wounds, and even if we have no swelling at all there is apt to be cutting of the tissues from it

Dr Reger—Just one word in reference to the preparation of horse hair I have never depended upon simply washing the hair, but I have sterilized it by superheated steam prior to using it, and I have never found it produce any sepsis whatever

Dr Daniels—I am very much gratified at the discussion that my paper has elicited Dr Harnden mentioned the point regarding tension I also mentioned it in the paper With reference to the preparation of horse hair, I will say that if it is properly and carefully prepared, thoroughly asepticized, the surgeon need not have any fear of sepsis following its use In superficial wounds, where we can not place as many sutures of silk, catgut or silkworm gut in holding our flaps, we can use horse hair to excellent advantage

On motion of Dr R Harvey Reed, the chair appointed Dr F H Peck, Clinton, N Y , as sergeant at-arms

The election of officers having been made the special order of business at this session, on motion of Dr F H, Peck, the chairman appointed Dr F H Caldwell, Sanford, Dr W H Meyers, Meyersdale, Pa , Dr C B Kibler, y, Pa , tellers

n motion of Dr W H Elliott, the Academy proceeded allot for officers without nomination

le ballots for President resulted as follows C K Cole, ena, Mont, 18, H J Maynard, Cheyenne, Wyo , 3, C M iels, Buffalo, N Y , 1, C B Parker, Cleveland, Ohio, 2, tering, 2

n motion of Dr F H Caldwell, the election of Dr C K e was made unanimous

irst ballot for Vice President W H Elliott, Savannah, , 5, C B Parker, Cleveland, Ohio, 1, J H Maynard yenne, Wyo , 1, F H Caldwell, Sanford, Fla , 1, R S nden, Waverly N Y , 2, John E Owens, Chicago, Ill , 4, M Daniels, Buffalo, N Y , 12, L E Lemen, Denver, Colo , F H Peck, Clinton, N Y , 1, R Harvey Reed, Columbus, o, 1

here having been no choice, a second ballot was cast ich resulted as follows Dr W H Elliott, Savannah, Ga , Dr C M Daniels, Buffalo, N Y , 16

n motion of Dr W H Elliott, the Secretary was instructed to cast the ballot of the Academy for Dr C M niels for First Vice President

n motion of Dr L E Lemen, the Secretary was instructed cast the ballot of the Academy for Dr W H Elliott for ond Vice-President

ecretary The ballot for Secretary resulted as follows ebb J Kelly, Galion, Ohio, 21 , L E Lemen, Denver, Colo , R Harvey Reed, Columbus Ohio, 6, A C Scott Temple, xas, 2 Dr Webb J Kelly was declared elected Secretary

reasurer The ballot for Treasurer resulted as follows H Caldwell, Sanford, Fla , 1, R Harvey Reed, Columbus, io, 8, John E Owens, Chicago, Ill , 7, F H Peck, Clinton, Y , 1 A C Scott, Temple, Texas 1, C B Parker, Cleveland, Ohio 1, C B Kibler, Corry, Pa , 9, W H Meyers, eyersdale, Pa , 1

On motion of Dr F H Caldwell, the Secretary was instructed to cast the ballot of the Academy for Dr C B ibler for Treasurer

On motion of Dr F H Caldwell Dr R Harvey Reed, olumbus Ohio, was elected Editor

Executive Board On motion of Dr Milton Jay, Chief urgeon, C & E I R'y, Chicago, Ill , the candidate receiving e greatest number of votes would serve for four (4) years, e next highest for three (3) years, the next highest for two 2) years, and the next highest for one (1) year

The ballot resulted as follows John E Owens, Chicago, ll , 26, L E Lemen, Denver, Colo 17 C D Evans, Colum us, Neb , 4, H J Maynard Cheyenne, Wyo 5, F H aldwell, Sanford, Fla , 9, W R Blakeslee, Forest City Pa , , F H Peck, Clinton N Y , 2, Geo W Crile Cleveland, hio, 2, W L Buechner, Youngstown, Ohio, 2 C B Parker, leveland, Ohio 17, R S Harnden, Waverly, N Y 11, A C cott, Temple, Texas, 5, Chas B Fry, Mattoon, Ill , 1, D C ryant, Omaha, Neb , 1 A D Bevan, Chicago, Ill , 1, S G Worley, St Augustine Fla , 1, J G Davis, Chicago, Ill , 1

[In this ballot each Fellow had the right, if he so desired, to cast a ballot for four different Fellows to serve on the Executive Board —Ed]

On motion of Dr C K Cole, Dr L E Lemen and Dr C B Parker decided by lot who should serve as three years, Dr Lemen being fortunate secured the three year term

On motion of Dr R S Harnden, seconded by Dr R Harvey Reed, Chicago was selected as the next place of meeting

On motion of Dr Chas B Fry, the Executive Board was instructed to name the date for the next meeting which they did by selecting the second Thursday, Friday and Saturday of September 1895

Dr George Chaffee, Surgeon, L I R'y, Brooklyn, N Y , being unable to be present and his paper being in the hands of the Secretary on motion of Dr R S Harnden it was read and referred to the Committee on Publication

(*To be continued*)

Louisville Surgical Society

This society was the guest of Dr Jos M Mathews at his residence on Monday evening February 11, Dr H H Grant in the chair In the business meeting Dr L S McMurtry was elected a member of the society, and Dr J M Ray was nominated as a candidate for membership to be voted on at the next meeting

Dr A M Vance showed some incarcerated fat removed from a case of strangulated femoral hernia upon which he had operated an hour previously The patient was a female 50 years of age and twenty years previously, when hernia first appeared, Dr Turner Anderson had tried to persuade the patient to submit to an operation Two of the patient's sisters also have femoral hernia The hernia contained omentum and gut, the omentum was adherent and was removed, gut had been strangulated for sixteen hours, and a great deal of unskillful taxis had been employed by the patient and her friends

Dr A M Cartledge showed several specimens One a large multinodular fibroid tumor removed from a negro woman, on February 2 The patient was [illegible] years of age with the appearance of being [illegible] Tumor had been noticed for six years Indications for operation were the severe hemorrhages and the frequent attacks of peritonitis This case had illustrated how difficult it is to follow hard and fast lines in hysterectomy it is impossible to follow one operation There were extensive adhesions on the posterior surface, and owing to the very short neck there had to be almost a complete extirpation, leaving only a small ring of the cervix The drainage was through the vagina the two lower ligatures being drawn down into vagina, the others clipped close The posterior drainage did admirably in this case, patient making an uninterrupted recovery

Case 2—This was the most wretched case of pelvic surgery the speaker had ever seen History of an abortion two years ago A septic fever following Since that time she has fallen from 160 pounds to 130 In January she was seen by Dr Cecil in an attack of peritonitis, and after treatment symptoms subsided and patient was up one day She then had a set back, temperature rose to 101 degrees and there was considerable tympany On January [illegible] the whole pelvis was one mass, the enlargement feeling like an extra uterine pregnancy, the tumor rising to the umbilicus and to the right side The condition was extreme Immediate operation was decided upon The peritoneum when cavity was opened looked like an extra uterine pregnancy because of the black look and venous congestion present Opaque lymph collections, three to four inches long looking like a twisted ovarian tumor The whole mass proved to be an enormous abscess extending over the uterus, and a left side pyosalpinx The abscess on the right side contained fully a pint of pus The intestines were cleaned as much as possible but left covered with organized lymph Cavity was irrigated with many gallons of water, and dependent and upper drainage used The specimens exhibited showed the adnexa removed Patient made a good recovery

Case 3—Illustrates a similar condition to the previous one It dates from an abortion and tubular disease followed Last of January during menstrual epoch had severe pain , a chill followed with an intense tension fever, and she had a feeling as if something gave way in her side this giving some ease , general tympany followed February 3 she was operated on, a general peritonitis existed, temperature of 103 degrees The left tube was found resting on the fundus, as large as a wrist The relief experienced as reported above, was due to the rupture of the tube in the broad ligament The right tube was the subject of salpingitis This case was treated with anterior drainage No trouble followed In such cases it is impossible to remove the tube without losing pus, after it has ruptured into the broad ligament

Case 4—Was one of recurrent appendicitis Operated on in the fifth attack Each previous one was typical The temperature was 102 degrees The appendix had ruptured and the abscess, which was capped down by omentum, contained one ounce of pus There was pus also in the appendix On the third day after the operation, the patient had a catarrhal jaundice, but made a good recovery

Dr J S Chenoweth showed appendix removed from a boy 14 years of age, in the third distinct attack The last attack there was rigidity of recti muscles , in the twenty-four hours the bowels moved three times, but the tenderness and pain increased The operation was done, two inch incision, appendix was black from pressure and apparently gangrenous to base, and at two points the wall was as thin as paper There were no adhesions, the appendix lying free in the cavity and stretching up in the incision in the peritoneum Double ligatures were used, the stump inverted and sewed On the eighth day there was an intercurrent attack of rheumatism, but in other respects the recovery was uneventful

Case 2—Patient 32 years old No trouble till four months ago There was vomiting and pain, but these were somewhat relieved when the bowels moved The temperature was normal, abdomen distended, vomiting, pain over left side, but tenderness only on the right side Abdomen was thick, a five inch incision was made and adhesions found toward the center of the abdomen, and the appendix was adherent to the ilium by its tip It contained fifteen or twenty drops of pus Gauze drain was used, abdomen closed with difficulty owing to tension from tympany The pain, he explained, was due to the position of the appendix, situated as it was across the abdomen

Case 3—Was diagnosed as intestinal obstruction On the sixth day a mass developed on the right side, pulse 130, temperature 102 degrees following a cold sweat Pushing through the thin adhesions forward, about one pint of thin pus escaped The omentum and appendix were tied off There was an enterolith and two perforations In this case there was fecal vomiting, and patient was delirious from sepsis The next day after the operation the patient got out of bed despite the close watching given him In twenty-four hours the patient's bowels moved and a good recovery was made

DISCUSSION

Dr Turner Anderson said that the operation for multiple fibroids was very interesting It is true that no special technique can be followed The question of appendicitis is one of the greatest importance His personal experience he acknowledged was queer His opinion based on his knowledge of appendicitis in late years amounted to this, that the *operation is justified only when it amounts to the opening of an abscess, when pus can be detected by external evidence* In the last four months he has seen three cases in which a tumor presented, and which would have been operated on by others, and all have recovered without cutting

Dr W C Dugan—The multiple fibroid is a beautiful specimen The pedicle is difficult to deal with oftentimes and it is impossible to tell which operation is to be done before the abdomen is opened In a case of his own, with a long pedicle, the tumor was easily removed and patient was up on the tenth day In contrast, in another case the operation as done by Dr Cartledge was performed, only the posterior drainage was not used, and the patient died from concealed hemorrhage As to the cause of pain being referred to left side in appendicitis, he believes it is due to pressure on the lumbar plexus and not to the location of the appendix

Louisville Academy of Medicine

The regular meeting of the Academy was held Feb 18, 1895, Dr T L McDermott, President, in the chair

Dr W C Dugan presented a case of a young man in whom he done Bassini's operation for the radical cure of hernia two years ago The patient at that time could not wear a truss, there being an undescended testicle The testicle which was undeveloped was removed, the cord was cut off and the canal sewed up high up The disposition of the cord is the great question, and if we could do away with the operation on the cord it would be a radical procedure The only feasible plan is the return of the testicle to the abdominal cavity, and if the testicle is returned and placed in the sub-peritoneal space there would be no trouble in any case, unless there occurs a gonorrheal epididymitis as in a case by Dr Palmer, and if this procedure is adopted, there will be a radical cure

Dr E R Palmer wished to offer himself as a case of cure of hernia without operative interference Through youth and early manhood he had been the subject of a right inguinal hernia, and always when laughing or at stool would place his hand so as to retain this hernia, in fact, his hand was on the internal ring nearly constantly, and a cure resulted As regards the case mentioned by Dr Dugan he had a patient who was a monorchid, the left testicle was in the groin, and there was a gonorrheal epididymitis in the retained testicle It was swollen, and painful, and presented all the radical symptoms of an epididymitis in a descended testicle Dr Roberts in consultation advised waiting for subsidence of the acute inflammatory symptoms before recovering the testicle, but symptoms became aggravated and a castration was done The testicle was the size of a small olive, the globus major and minor were the seat of a severe inflammation At present the specimen is being prepared for a microscopic examination In thirty years' experience this was the first case of gonorrheal epididymitis in a monorchid seen by Dr Palmer

Dr W L Rodman stated that one of the drawbacks to the removal of an undescended testicle was the probability of having a hernia. He had a case, a cryptorchid, one testicle being in the left inguinal canal, the other in the right external abdominal ring, and on account of the irritation resulting from constant pressure the patient applied for relief The last case he had operated on for an undescended testicle was promptly followed by a hernia, the cause most likely being on account of the removal of the testicle which acts as a plug, and when removed the canal is larger than usual, and a hernia results

Dr Dugan in closing the discussion upon the exhibited case, stated that he always closes up the ring, he slits up the canal to the internal abdominal ring, ties the cord off within the space behind the muscle, and does a Bassini operation

Dr L S McMurtry exhibited a specimen of a large uterine fibro-myoma The patient was 37 years of age The tumor had been present for three years, and had recently grown rapidly The indications for operative interference were pressure symptoms and metrorrhagia She was vomiting daily owing to pressure upon the stomach, there was very frequent urination owing to pressure on the bladder, and there was partial obstruction of the bowel necessitating a daily enema An interesting point in the operation was the carrying upward of the bladder as the tumor grew, and unless care had been observed it might readily have been cut into The peritoneum was slipped off, the bladder in this way was let down, the broad ligaments were tied off, and the tumor removed, the pedicle being treated extra-peritoneally with the nœud There were extensive omental adhesions which had to be tied off separately The operation lasted forty two minutes and the patient left the table with a pulse of 78 The tumor, as shown, had grown in the direction of least resistance, the larger nodule had grown in the hollow of the sacrum, conforming to it in shape, the growth filled the pelvic cavity and the greater part of the abdominal cavity This tumor belongs to that class of uterine fibroids which can only be cured by hysterectomy

Dr Dugan stated that the specimen was a beautiful one He spoke of the attachments to the bladder and the rectum, and emphasized the fact that there is danger of cutting into the bladder citing an instance of an operator who thought he was observing all precautions and still cut into the bladder, and he had seen in New York in the same operating room two cases in which the bladders had been cut into It is so easy to let away the bladder and the rectum by making an incision and stripping off the peritoneum as was done by Dr McMurtry

Dr McMurtry, in closing, said that in an exhaustive study of fibroids of the uterus, he had thought it strange how universally the profession was misled about fibroids disappearing at the menopause He can not recall a half dozen in which the tumor had disappeared at the menopause The most difficult case he had ever operated on the tumor rose to the diaphragm, and the body of the tumor had undergone cystic and purulent degeneration The patient was obliged to lie on her side constantly, and weighed only ninety pounds when the tumor was removed, yet this patient was 52 years old and the growth first appeared a year before the menopause, and grew most rapidly after that period It is rare that the menopause brings the desired relief by shrinkage of the tumor, it perhaps does not grow so rapidly, but the idea that they disappear rapidly is an error

Dr Louis Frank stated that in these cases of fibroids the danger of ligating the uterus is a point to be considered As a rule, if the tumor is situated in the upper part of the uterus they usually do decrease in size at the menopause but do not disappear If adhesions are present a more rapid growth can be expected, owing to the blood supply through these adhesions

The paper of the evening by Dr E R Palmer, on "The Vaginal Douche in its Relations to Blennorrhea in the Female," was then read [It will be published in this Journal later]

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM, IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO., WASHINGTON AGENT

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This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman Venetian Building Chicago Ill sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

Gentlemen already members of the Association should send their annual subscription to the Treasurer or direct to the JOURNAL office

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor* and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 86 Fifth Avenue, Chicago

SATURDAY MARCH 2 1895

THE REGULATION OF DOCTORS' FEES

> Be cunning in the working this, and thy fee is a thousand ducats —*Much Ado About Nothing*

A member of the Illinois State Senate whom we may term O'DWYER, has introduced a bill into the Senate regulating the fees of physicians and surgeons The JOURNAL has not been favored with a copy of this bill, but we learn by the daily press that the bill proposes to fix the maximum fee for any surgical operation at $100 SENATOR O'DWYER is given credit by the veracious chronicler of the press for being the first to bring this subject to the attention of the law As usual, however, this statement was evidently made by some one who had not looked into the records on this subject Professional fees have been regulated by law from perhaps the earliest times

By the Cincian law, passed in the palmy days of the Roman Republic, lawyers were prohibited from taking fees or presents from those who consulted them, this, in effect, restricted the practice of law to those wealthy citizens who practiced solely from a desire to benefit their fellow men or the State AUGUSTUS enforced the law by enacting as a penalty for its violation, that such violators should restore fourfold

Under later Emperors, lawyers were permitted to take fees, and we are told by JUVENAL that pleadings had become venal, that persons of the lowest rank had become lawyers, and that they fomented lawsuits According to PLINY, all subsequent edicts to restrain the rapacity of the lawyers were artfully eluded

The precedent thus being set to control "the rapacity of the lawyers," it would be strange if there were not equal restrictions placed upon the doctors But our profession had always been liberal and indulgent, with a notable exception to be hereafter mentioned, and it was not until the eighth century that we find any laws concerning their fees In that century a law was passed in Naples giving certain privileges to the universities of the kingdom, and the Salernian and Neapolitan physicians were compelled to make a visit in the city for a *demi tarenus* and if called without the city they were not allowed more than three *tareni* The *tarenus* had a value of about thirty cents

This was a distinct retrograde from that historic fee of MELAMPUS who flourished 1,380 years B C MELAMPUS having cured of insanity, the two daughters of the king, asked for and received a share of the kingdom for himself and his brother BIAS, and "they espoused the two daughters" But low as the fees were in the days of the SCHOOL OF SALERNUM, that faculty would seem to have had difficulty in collecting what they earned, for in a famous exhortation appropriately written in Leonine verse, "On the Ingratitude of Patients," they inveigh against the innate tendency of mankind to neglect the payment of any sum, either large or small, and they urge the physician to demand the fee "while yet the smart remains," or else the ungrateful patient will exclaim that he has paid, "twice paid, the costly bill" But there has never been any fixed price for special and peculiar services, according to ARBUTHNOT Even in the first century the physician to a prince received about 250 sestertia ($10,090) STERTINIUS complained that he had only a salary of 500 sestertia, when he at the same time had by his private practice alone, 600 sestertia

But there can not even now be placed a limit to the actual value of services any more than a maximum limitation can be placed on individual knowledge, and we presume even SENATOR O'DWYER would wish the average physician to exceed the knowledge of the ancient surgeons of Scotland, for we are informed that when the surgeons of Edinburgh were incorporated in 1805, it was required of them that they should "rede and rite, know anatomie, nature and complexion of humanis bodie, and lykawayes to know all vaynes of the samyn, that he may make flewbothemie in dew time," and also know the shaving of beards

Fees will always vary according to the attainments, skill and characteristics of the practitioner and no legislative enactment can change the common custom of centuries Nor is it possible, like the harlequin of the French comedy, to return the service of the physician Harlequin having refused to pay the doctor, that worthy brought suit, whereupon being brought before the judge the quondam patient declares that he does not desire the health he had received and proposed to return it, and offered to deliver it into the hands of the judge, provided the doctor would do the same with the disease, so that each might have his own This time it was the judge who objected

If the learned Senator will devote more time to the study of the real abuses from which the people suffer at the hands of monopolies, fostered by the lawyers, he will have less time to give to a profession that already gives nearly or quite one half of its time to the service of the poor

Whoever heard of a lawyer who gave any considerable time to the service of impecunious clients with not even a speculative fee in sight? The two law dispensaries, one by the University of Pennsylvania, and one by the Northwestern University, are said to be principally managed by students The great surgeons, those who command the highest fees from patients able to pay, operate without fee or hope of reward on every person who asks them, provided only that they frankly state their inability to pay That they are frequently imposed upon, there is no doubt The same rule exists in the case of the specialists in the various branches of general medicine and surgery We have thought, therefore, that the best thing about the bill of Senator O'Dwyer was the impossibility of its passage, by any assemblage outside of a lunatic asylum

THE KILLING OF DR DYAS, AND ITS LESSON

Nowhere in any civilized country is human life so insecure as in the city of Chicago This assertion, prompted by the recent tragic death of the venerable Dr Dyas, is made advisedly It is not only in the matter of homicide with criminal intent—of which the Journal may have something to say hereafter—that it is the most blood-guilty city on earth, but in the matter of purposeless and wholly unnecessary homicide by common carriers Chicago has for years maintained a murderous preeminence

Last year, 1894, no less than 308 human lives were crushed out by the railroads within the city limits, in addition to which there were 46 others killed by the street cars This frightful total—which, it should be noted, is below the average—takes no account of the maimed and mangled survivors, who, it is estimated from the meager newspaper reports and the police and hospital records, number at least ten to every one killed outright And of these survivors many are more to be commiserated than those to whom death came mercifully because swiftly

In the previous year, 462 persons were killed by these common carriers, or nearly one-third the total number of deaths from all forms of violence Under the *caption*, "Railroad Slaughter," the Commissioner of Health in his Annual Report, points out that this sacrifice of human life is due to the fact that there are over two thousand miles of railroad tracks within the corporate limits of the city, with more than three thousand street-crossings at grade, over which nearly one thousand, four hundred trains run daily, and adds "These accidents and the resulting slaughter and disabilities can not, probably, wholly or in any large measure, be obviated without an abandonment of the surface crossings, but it may be noted that one of the main lines east from Chicago, using the block system of signals, claims to have carried 428,000 passengers during the World's Fair period without injury to a single individual " *And yet not only* does the municipality neglect to enforce the use of the block-signal system on the railroads within the city limits, but it does not even compel the companies to maintain gates or other safeguards at these crossings, nor to employ signal men to warn of the approach of these rapidly-moving engines of death *and destruction*

Dr Dyas's murder differs not one whit from hundreds of others, save in his distinguished personality. Returning to his home in the six-o'clock gloom of a winter evening, after a day spent in philanthropic labors, he stepped from his train, unimpeded by bar or gate, unwarned by voice or signal, was struck down by the engine of a fast express train, and was found some time after, mangled and unconscious, his face crushed into the cinders and ballast of the road-bed, his neck broken, his skull fractured, his left hand ground to pulp by the flying wheels At the inquest it was shown that there was neither gate, nor signal light, nor alarm bell, nor watchman to warn him or other passengers that a through express train was whirling down the tracks they must cross to reach their homes

And neither coroner's jury, nor the daily press, nor the civic authority finds anything to do or say in the premises beyond a mild censure of the railroad company for "running the train, which killed the deceased, at a rate of speed entirely too fast to be consistent with the safety of passengers alighting at this station," and for not providing proper platforms at the station

It should be recorded, however, in justice to the present municipal administration and to the memory of its predecessor, and as well to the railroad companies themselves, that progress is being made toward track elevation—a feat which may, possibly be accomplished some time in the next century, certainly not much before Is it too much to ask that meantime, efficient guards, both mechanical and human, be placed at these surface crossings? Or, in the language of one of the leading dailies of the city "*Shall the grade-crossing slaughter go on, day in and* day out, to the utter confusion of the claim that this is a civilized community?"

Blank Applications for membership in the Association at the Journal office

THE FRENCH CABINET

Our esteemed contemporary, the *British Medical Journal*, in a recent issue points out that "the new French cabinet includes two members of the medical profession, Dr Chautemps, Minister for the Colonies, and Dr Gadad, Minister of Agriculture The *Journal* further states that there were "also two members of the medical profession in M Dupuy's cabinet, namely, Drs Lourties and Viger"

In the United States we recall but a single instance of a medical man serving as a cabinet officer, that of Dr Oliver Wolcott, of Connecticut, who was appointed Secretary of the Treasury next succeeding Alexander Hamilton, Feb 3, 1795, General Washington then being President President Jefferson continued Dr Wolcott in office and he held it until May, 1800 It is thus seen that unlike some of his successors, the Father of his Country had no objection to placing important public interests in the hands of a medical man, although it is only fair to mention that our Dr Wolcott had served with great distinction in the War of the Revolution and rose to the rank of Brigadier General

In the Judiciary, one of its ablest members was the late Mr Justice Miller, of the Supreme Court, who was graduated in medicine at the Transylvania University, and who practiced medicine for nearly twenty years, before studying law and being admitted to the bar

The legislative branch of the Government shows a great many who were medical men, but not very many who had risen to distinction in the medical profession Dr Samuel Latham Mitchell, editor of the *Medical Repository*, was a notable exception, for he not only made a phenomenally great record in his profession, but also in the Senate, being a Senator from the State of New York from 1804 to 1809 He also served in the House of Representatives from 1801 to 1804, and again from 1810 to 1813

THE JOURNAL OF THE ASSOCIATION

We have cause for rejoicing that amid all the dullness of the great financial depression, the Journal of the American Medical Association is still gaining new members for the Association, and friends for itself One enthusiastic friend has paid his subscription in full without discount, to the year 1900 Another member has exerted himself to the extent of securing a number of new members, and all the old members have remained steadfast The enlargement made last year has allowed the publication of more medical news, and items of general interest to the profession than ever before, and the present outlook is very favorable for a still greater enlargement from and after July next There is no longer any question of the ability of the Association to own, maintain and publish one of the greatest of weekly medical journals, and its capacity for putting forth creditable medical literature is prodigious

With these facts before them, it is clearly a patriotic duty of the membership to use every means in their power, to push the good work of organization, in season and out of season, until their journal shall become the greatest medical journal on the habitable globe We urge every individual member to say a word to his medical friends, in favor of the necessity of standing shoulder to shoulder in the proud and patriotic work of enlisting every worthy member of the American medical profession in the cause of medical organization Organize! brethren in solid phalanx for the advancement of American medicine and fall into line under the broad banner of fellowship in the American Medical Association! Do not rest until you have secured the adhesion and membership application of every medical man in America

THE SEMI CENTENNIAL OF THE AMERICAN MEDICAL ASSOCIATION

The excellent suggestion of Dr Samuel C Busey, quoted in our last issue (page 296), that preparations should be made for a proper celebration of the semicentennial anniversary of our Association should not be allowed to pass unheeded

The long and eventful life of the Association, the great wisdom and foresight of its founders, the great advances in professional organization and work due to the persistent efforts of the Association, the solid and material gains to the profession itself, and the foundation of the Journal, afford abundant material for glorification and a jubilee occasion

It will be therefore in every way fitting that a strong committee be appointed at Baltimore to carry out Dr Busey's suggestion in a manner at once creditable to the Association and gratifying to the whole profession

CORRESPONDENCE

Inebriety

Oran, Mo, Feb 25, 1895

To the Editor —Is a man who has been confined in prison ten or twelve years and who has not drunk a drop of liquor in all these years an inebriate? Thousands of drunkards have been imprisoned, and not allowed to drink, and after a number of years released well, so far as physical appearances would indicate The extreme scientists may assert that such men are diseased because many, so soon as they are released get drunk If carelessness for public opinion is indicative of disease, then drunkenness is possibly a disease too The remedy is rather curious but it is very effective It 'almost hardly ever fails" Prisoners are rarely troubled with this malady after the first day in jail The remedy that cures this malady in so short a time is rarely used in other diseases

Moral suasion is another effective remedy in drunkenness, but does no good in pneumonia I used to say that religion cured more bad cases of inebriety than any other remedy, but my ultra scientific friend scared me off the track, by telling me I was "dogmatic" (whatever that may mean) They tell me that the cases I report as cured are only *apparently* well I ask them now, how is it with the men who have been *scientifically* cured, are they well or only *apparently* well? There are relapses in both cases, does the relapse prove that no one has been cured? If such a theory is true, there is no way to tell when a case has been cured If drunkenness is a *disease* and the inebriate is like the patient with typhoid fever, entirely irresponsible for his acts, it is high time that it should be known There is no earthly use for courts of justice fooling away their time with business that belongs exclusively to the medical profession There has been a great wrong done to drunkards and doctors too The drunkard has been punished and the doctor has lost his legitimate fees Lawyers are responsible for this They knew all the time that the drunkard was only sick! And instead of sending for the doctor they send for a policeman, have the poor drunkard imprisoned and get a fee for having him released, when the proper thing was to send for a doctor who obtains a fee for his call and prescription and sends the man where he belongs (*to a hospital*) where he can be cured and the hospital doctor gets *his* proper fee

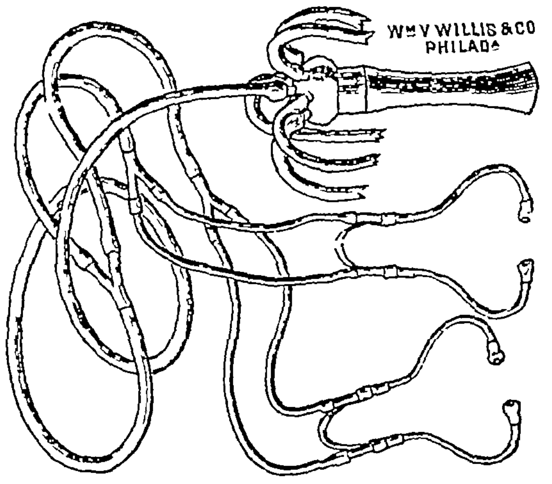
I think the editor is striking out in the proper direction If we can convince the people that the inebriate belongs exclusively to us we will soon have plenty of practice and money too The inebriate has paid the legal profession and courts good wages all the time, and if we can turn this great source of wealth into its proper channel it will be a blessing to the profession Start a petition to Congress, and have all physicians sign it We have been imposed upon long enough and will fight for our rights

Hurriedly submitted by
W P Howle, M D

A Multiplex Stethoscope

Philadelphia, Feb 17, 1895

To the Editor —The interesting communication of Dr A M Corwin, in the Journal for Feb 16, 1895, upon a double binaural stethoscope prompts me to send you the accompanying cut of a multiplex binaural stethoscope, which I have been using with much satisfaction to the class and myself, at the Jefferson Medical College Hospital for some months By means of this instrument, which was made at my request by Mr William Willis, a well-known instrument maker of Philadelphia, sixteen students can listen to the heart sounds or any other physical signs demonstrable by auscultation, if these sounds are not so indistinct as to be heard with difficulty even when using a single instrument With large classes the difficulty is that only two or three men can listen to the heart sounds, while the description of the case is fresh in their memories, but with this multiplex instrument a large number can listen at once with little inconvenience to the patient If two instruments are employed, thirty-two men can hear the sounds without interfering with one another, the chest pieces taking up but little room and the tubes being made long enough to extend a considerable distance from the patient These instruments work satisfactorily in direct proportion to the quality of the materials used in their construction and the care exercised in making the wooden chest piece Very truly yours,



H A Hare, M D

Lister's Method

Milwaukee, Wis, Feb 14, 1895

To the Editor —Will you kindly inform me what Lister's method of chromicizing catgut is and oblige

Yours, etc, D T Shimonek, M D
307 Grand Avenue

Answer Lucas-Championierre, in his work on the "Radical Cure of Hernia," thus gives the original formula of Lister, which Lucas-Championierre still adhered to in 1892

Olive oil	100
Acid carbolici cryst	20
Water	2

M

Catgut should be immersed in this emulsion not less than six months Before using the catgut it is soaked for a quarter of an hour in a carbolic acid solution 20 to 100

Correction—Diagnosis of Leprosy.

Philadelphia, Feb 25, 1895

To the Editor —I beg you will correct two typographical errors in my letter, published in the Journal of February 23, concerning "Leprosy and its Diagnosis" The words "and the analgia" should read erythromelalgia, and "ainbumides" should read ainhumoides The first error as it stands now, makes the reading incomprehensible and senseless

Respectfully, Louis A Duhring, M D

Moral Write so that it can be read Had our esteemed correspondent written the original as plainly as he has written this one, he would have had no cause for complaint —Ed.

ASSOCIATION NEWS

American Medical Association

Office of the Permanent Secretary.
1400 Pine Street, Philadelphia

The forty-sixth annual session will be held in Baltimore, Md on Tuesday, Wednesday, Thursday, and Friday, June 7, 8, 9, 9, and 10, commencing on Tuesday, at 10 a m

"The delegates shall receive their appointment from permanently organized State medical societies, and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical department of the Army and Navy, and the Marine-Hospital Service of the United States

"Each State, county, and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more that half that number *Provided*, however, that the number of delegates for any particular State, Territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association"

Members by Application —Members by application shall consist of such members of the State, county, and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5 They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms

The following resolution was adopted at the Session of 1888

That in future, each delegate or permanent member shall, when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers

Secretaries of medical societies, *as above designated*, are earnestly requested to forward, *at once*, lists of their delegates

AMENDMENTS TO THE CONSTITUTION AND BY LAWS

[Offered in 1892, and laid over from 1893 and 1894]

Offered by Dr C A L Reed—Amend Article II, Section 1, of the Regulations, by inserting after the words United States, "the Dominion of Canada, Labrador, and Newfoundland," and that such other changes be made in the phraseology of the Regulations and By Laws as to make the same conform to this contemplated enlarged jurisdiction of the Association "

By Dr I N Quimby— That Thursday morning's general session be omitted, and the time be devoted to sectional work "

By Drs John Morris and J G Kiernan—Amend Section 7 of the Constitution entitled, the General Business Committee," as follows "It shall be the future duty of the General Business Committee to make and present the nominations for the officers of the Association and its standing committees, and recommend the time and place for the meeting of the Association

'The General Business Committee of the Association shall perform all duties hitherto performed by the Committee on Nominations, which is hereby abolished All sections of the Constitution and By Laws, or parts thereof, inconsistent with the amendment, are hereby repealed "

By Dr F F Dow—Amendment to the Constitution, to be known as Article VIII, entitled 'The Code of Ethics " "The relations of the physician to the patient, to the public, and to the profession require that he shall be of good moral character, and in his personal and professional conduct without reproach, that he shall avoid pretense and notoriety, that he shall properly qualify himself for professional duty by broad and liberal studies in letters, sciences and arts, that he shall employ reasonable and reputable methods of practice, that he shall respect the laws of the State, that he shall encourage efficient means for the enlightenment of public opinion regarding the responsibilities of medical men and the relation of the citizen to public health, for the cultivation of medical education, for the promotion of the interests, usefulness, and honor of the profession, for the emulation, concerted action, and friendly intercourse among those engaged in it

'Substituting the Roman numerals IX for VIII

"All articles, By-Laws, and Codes inconsistent with this amendment are hereby repealed "

By Dr. J H Rauch—"That on and after July 1, 1897, no one will be admitted to membership in the American Medical Association who has not studied medicine for four years, and attended four annual courses of lectures of at least six months' duration "

By Dr. F F Dow—Amend By Law No XI, relating to the Judicial Council The second clause of paragraph 3 shall be amended to read as follows "The decisions of said Council on all matters referred to it by the Association shall be reported at the earliest practicable moment, and shall be final unless revised by the Association "

By Dr A B Hosmer—"Whereas, The constantly increasing number of papers on general surgical subjects presented each year at the Surgical Section of this Association, the reading and even restricted discussion of which prohibit the introduction of any considerable number of papers on strictly orthopedic subjects, which might not prove of universal interest to the general surgeon, and

Whereas, There are already a sufficient and rapidly increasing number of members of the Surgical Section of this Association especially interested in this branch of surgery to warrant it, therefore be it

"*Resolved*, To amend Article II of the By-Laws by the addition, under the heading Sections, and after 12, Physiology and Dietetics, the following, 13, Orthopedic Surgery

By Dr J T Priestley—"The entire report on Constitution etc, as offered in the report of Dr Holton at San Francisco "

ADDRESSES

On General Medicine, by Dr William E Quine, Chicago, Ill., on General Surgery, by Dr C A Wheaton, St Paul, Minn on State Medicine, by Dr H D Holton Brattleboro, Vt Committee of Arrangements, Dr J J Chisolm, Chairman, Hotel Stafford, Baltimore, Md

William B Atkinson, M D, Permanent Secretary

EXTRACTS FROM BY LAWS

The Chairman of each Section shall prepare an address on the recent advancements in the branches belonging to his Section, including suggestions in regard to improvements in methods of work and present the same to the Section over which he presides, on the first day of the annual meeting The reading of such address not to occupy more than forty minutes"—*By Laws*

"It shall be the duty of every member of the Association who proposes to present a paper or report to any one of the Sections, to forward either the paper, or a title indicative of its contents and length (not to exceed twenty minutes in reading), to the Secretary of said Section at least one month before the annual meeting at which the paper or report is to be read"—*By Laws*

5—The Publication of Papers and Reports— Every paper received by this Association and ordered to be published and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association"—*By Laws*

OFFICERS OF SECTIONS

Practice of Medicine—I W Kellogg, corner Mitchell Street and First Avenue, Milwaukee Wis, Wm E Quine, Secretary, 103 State Street, Chicago, Ill

Obstetrics and Diseases of Women—F H Martin Chairman, 31 East Washington Street, Chicago, Ill, X O Werder, Secretary, 514 Penn Avenue, Pittsburg, Pa

Surgery and Anatomy—Joseph Ransohoff Chairman, 295 Walnut Street Cincinnati, Ohio, Reginald H Sayre, Secretary, 285 Fifth Avenue New York

State Medicine—Elston H Montgomery, Chairman 70 State Street, Chicago, Ill, Chas H Shepard, Secretary, 81 Columbia Heights, Brooklyn, N Y

Ophthalmology—Edward Jackson Chairman, Denver Colo H V Wurdemann, Secretary, 805 Grand Avenue, Milwaukee, Wis

Laryngology and Otology—J F Fulton, Chairman, 328 Wabasha Street, St Paul, Minn, F J Gallaher, Secretary 120 Collins Street Pittsburg, Pa

Diseases of Children—Edward H Small Chairman, Penn and Negley Avenues, Pittsburg, Pa G W McNeil, Secretary, 250 Frankston Avenue, Pittsburg, Pa

Oral and Dental Surgery—M H Fletcher, Chairman, 65 West Seventh Street, Cincinnati Ohio, E S Talbot, Secretary, 125 State Street Chicago, Ill

Neurology and Medical Jurisprudence—Daniel R Brower Chairman, 34 East Washington Street, Chicago, Ill, T D Crothers, Secretary, Walnut Hills Sanitarium, Hartford, Conn

Dermatology and Syphilography—A I Regensburger, Chairman, San Francisco, Cal, D H Rand, Secretary, Portland, Ore

Materia Medica and Pharmacy—W Helpsey, St Louis, Chairman, G F Hanson, Secretary, 715 Clay Street, San Francisco, Cal

Physiology and Dietetics—M H Woolsey, Chairman, Oakland, Cal, C G Chaddock, Secretary, 2900 Washington Avenue, St Louis, Mo

Section on Gynecology—Dr Charles Jacobs, the distinguished gynecologist of Brussels, will attend the meeting of the American Medical Association in Baltimore, and, if opportunity offers, will perform his operation of vaginal total extirpation of the uterus and appendages, before such of the members as desire to witness it

The Baltimore Meeting—Notice to Exhibitors—The Committee of Arrangements has rented the Cyclorama Building, for the pharmaceutic exhibit in connection with the meeting of the American Medical Association This building is directly across the street from the new Music Hall, in which the meetings of the Association will be held Intending exhibitors are requested to forward their applications for space at their earliest convenience Diagrams, rates, etc, will be forwarded upon request It is desired to make the exhibit of pharmaceutic products, instruments, etc, a special feature of the meeting The Committee on Exhibits will do all in its power to satisfy exhibitors, both as regards space conveniences for storage, and rates At the same time it must be evident to every one that the first applicants will have first choice of position The diagram of spaces will also show the location of the exhibition building in relation to the meeting hall, and the principal railroad stations

All correspondence in reference to the exhibits should be addressed to the undersigned

George H Rohe, M D,
Chairman Committee on Exhibits
Hotel Stafford, Baltimore, Md

Section on Dermatology and Syphilography —List of papers to be read at the next meeting in Baltimore, in June Chairman's address, and papers on "The Identity of Lupus Vulgaris Erythematous," by Alfred E Regensburger, San Francisco, Cal , "Keloid," by A Ravogli, Cincinnati, Ohio, "The Human Epitrichium and its Relations to some Congenital Skin Diseases," (also Specimens), by A H Ohmann-Dumesnil, St Louis, Mo , "Adenoma Sebaceum," by W E Maxwell, Portland, Ore , 'Syphilis—the Dangers of and how to avoid Them," by A S Garnett, Hot Springs, Ark , "Syphilis of the Pharynx," by A Ravogli, Cincinnati, Ohio, "Syphilis and Gonorrhea as an Etiologic Factor in Diseases of Women," by H R Holmes, Portland, Ore , "Syphilitic Specific Ulceration of the Rectum," by James P Tuttle, New York City, "Conceptional Syphilis," by David H Rand, Portland, Ore , "Cerebral Syphilis," by Frank P Norbury, Jacksonville, Ill , "Hereditary Syphilis," by G S Stein, Columbus, Ohio, Edward Martin, Philadelphia, Pa , subject not stated, Jas Nevins Hyde, Chicago, Ill , (promised) subject not stated, James E White, Boston, Mass , (promised) subject not stated , W A Hardaway, St Louis, Mo, subject not stated , Louis Franks, Milwaukee, Wis , subject not stated, W F Breakey, Ann Arbor, Mich , subject not stated, W T Corlett, Cleveland, Ohio, subject not stated, "Exhibition of Protozoa in three cases of Skin Disease," and "Some late and interesting points on the Pathology of Herpes Zoster," by T E Gilchrist, Baltimore, Md , L Duncan Bulkley, New York City, subject not stated, unless it be "Signs, Diagnosis and Treatment of Sycosis—Differential Diagnosis, Pathology, Local and Internal Treatment"

BOOK NOTICES

Dose-Book and Manual of Prescription-Writing, with a list of the official drugs and preparations, and also many of the newer remedies now frequently used, with their doses By E I Thornton, M D , Ph G Philadelphia W B Saunders Chicago The W, T Keener Co Price $1 25

The author says on page 21 concerning the metric system "This system of weight, length and capacity has largely come into general use, and its adoption into the United States Pharmacopœia of 1890 makes it obligatory upon the physician to understand and *to be able to translate it into the ordinary apothecaries weights and measures, that he may be able to use it in prescribing*" (Italics ours) Such statements are absurd Why should anybody wish to translate the metric dose into the obsolete British form? There is only one way to use the metric system of dosage, and that is to learn the single dose One can, if he desire, carry a little dose slip in his visiting list or call book, on which is printed the dose of each drug in metric terms, let him consult it a few times and he will soon become familiar with the dosage of the more common drugs Rules for conversion are tiresome and frequently lead into making fractional doses that are ridiculous and unnecessary

The author very properly remarks that the decimal system is easy to learn, as it is as simple as our monetary system, but he might have said that it adds to the confusion to undertake to work out a complicated mathematical problem whenever one wishes to write a prescription The space devoted to these translations is therefore worse than useless There is but one thing to remember, that is the single dose, then *multiply the single dose by the number of doses wanted*, point the decimal, by using a line instead of a point, to emphasize it, and the thing is done

The directions for prescription writing are excellent and the excursion into Latin construction entirely proper, but the examples of prescriptions are all in the old dosage, with a solitary exception on page 147 A large part of the book is devoted to a dose list of the official drugs, both systems are used

This book has a field, and with alterations in the directions indicated, will be well adapted to meet the necessities of the time

Doctor Judas, a Portrayal of the Opium Habit By William Rosser Cobbe Cl, pp 320 Chicago S C Griggs & Co 1895

The author has named opium, Doctor Judas, because while it cures or saves it betrays, and the whole of the book is devoted to setting forth the evils that the opium habit entails

"Contention has been made," says the author, "that in the hands of physicians there is safety in its use This is contrary to the evidence of numbers of former habitués, all of whom save two, had the habit fastened on them by their family doctors Confirmation of the danger that comes from medical carelessness is had in a trustworthy record of more than twelve hundred cases, upward of 70 per centum of whom owed their serfdom to the same agent It should be explained that many of those personally known, are themselves physicians who prescribed the drug that fastened the habit upon their souls"

Whether prepared to indorse *in toto* the author's faith, there can be no harm in obeying the mandate of Mr Cobbe that "the opiate should never be given for a longer period than a week at the most, and the patient should be kept in absolute ignorance of the nature of the prescription It is absurd to insist that the physician can shut off the use of it merely by refusing to give it any longer What does the sick one care for the doctor's interdict, when he can buy enough at the nearest drug store to fix the habit upon a score of persons?"

The book seems to well portray the sad experiences of the unfortunate opium victim and it is written with much power The suggestion that there is a concealed advertisement for the one solitary doctor who alone can cure this disease, does not militate against the literary merit of the book That it holds out a hope to the sufferer is true, but the author and his readers may as well put this thought "in their pipe and smoke it" That is, that in the present enlightened age, no one has a monopoly of knowledge of the means of cure, or of the method of its application

Charaka Samhita —The eleventh fasciculus of this ancient Hindu book lies on our table It is fully as curious, and not less interesting than its predecessors Much space is given to the dietary in this fasciculus Fish is not to be eaten with milk, and "the meat of domesticated animals, of those that live in marshy regions, and of those that are aquatic, should never be taken in conjunction with such things as honey, sesame oil, molasses, milk, masha (*Phascolus radiatus*), mulaka (*Raphanus sativs*), tolus stalks, and such paddy as have put forth sprouts"

We shall find, if we strip the matter of its verbiage, that the ancient Hindus possessed a fair idea of digestion, and that they well grouped the different varieties of esculents according to their qualities The code of health of Salernum, written during the Crusades, is not much nearer modern modes of expression than this most ancient of all medical books known to mankind The learned Avinash Chandra Kavíratna has conferred great pleasure on medical scholars everywhere by making the Charaka Samhita accessible,

PUBLIC HEALTH

High Death Rate in Chili —The heavy rate of mortality in Chili has led the Equitable Life Assurance Society to discontinue a further issue of policies in that republic

Bovine Tuberculosis in France —M Alexandre in a report on the subject of tuberculosis in stables in the Department of the Seine, gives some interesting figures He found the disease in seventy herds Of 20 000 cows, only 68 were recognized as tuberculous a proportion of 3 4 per 1 000 M Alexandre therefore holds to his opinion that the consumption of the flesh and milk of our domestic animals is not the cause of the terrible mortality from tuberculosis among mankind It is important he says, that this once accepted belief be thoroughly rooted out of our minds He urges, nevertheless, that modifications of the existing laws ought to be made at once, so as to make compulsory the employment of the tuberculin test on all animals of a herd in which a case of tuberculosis has been proved to exist

Tuberculosis in Germany —It is generally admitted that the mortality from pulmonary tuberculosis increases yearly especially in large cities, but recent statistics collected by Professor Hollinger, of Munich (*Semaine Medicale*) seem to demolish this theory—at least so far as the principal German cities are concerned For example, the mortality from tuberculosis in Munich, which was 40 8 per 10 000 inhabitants in 1883, had decreased to 30 8 in 1893 in Berlin the diminution has been 9 per 10,000 (22 7 in 1893 against 31 7 in 1883), A corresponding diminution has been shown for Frankfort, Dresden, Stuttgart and other cities It is probable that there has been a similar reduction in other countries, for in Vienna during the same space of time the mortality from tuberculosis has been lowered from 69 29 to 47 per 10 000 This lowered mortality is undoubtedly due to the hygienic measures, individual and general taken in regard to tuberculous patients This is not the sole reason, however for the deaths began to decrease before any vigorous prophylactic measures were instituted Part of this decrease, then, should be attributed to the cleansing of the cities

An Antitoxin Plant at Brooklyn —By authority of the Mayor, a grant of $10,000 has been given to the Brooklyn Department of Health for the establishment of a serum plant This sum, it is believed will enable the bacteriologists of the Department to continue for one year with a twenty horse stable The authorities of the city were induced to take this action largely by *reason of the representation of the* medical societies and profession The motive leading to this outlay has been the high prices that are still ruling and must for a considerable period, continue to rule in the market for foreign serum, these prices being practically prohibitive to the poor and to institutions that have no funds for extraordinary remedial expenditures At $3 50 per bottle for the imported serum, the impecunious must do without, unless there are created local plants for the gratuitous distribution of the remedy At Brooklyn a beginning has already been made with three horses One of these latter is soon to be tested It is reported that some few of the horses owned by the New York City Board of Health have already yielded a product fully equal to the strongest of the imported serums The clinical results from the same quarter are reported as continuing favorable There is now being constructed a chart for the purpose of graphically setting forth the decreased mortality by diphtheria that has followed the increased use of the antitoxin There is no longer any doubt in the minds of the experts that the ratio of mortality has progressively fallen in proportion as the quantity of serum has become more and more accessible

Mortality of New York State in 1894 —The Empire State had a total loss of 118 105 lives in the year 1894 This reported loss plus an estimated deferred return of about 1 800 deaths, yields a death rate of 18 75 per 1,000 living This is the lowest rate that has been recorded since 1889 There was a daily average of 324 deaths, as against 340 in 1893 The mortality under five years was 35 1 per cent of the total, a point that had not been reached before in five years Zymotic mortality was 18 6 per cent of the total or slightly above the average of the last five years Diphtheria and croup caused 6 592 deaths or 96 per 100 000 population—the highest rate since 1889 This heightened prevalence and mortality was limited to the maritime district of the State in which is included the cities of New York and Brooklyn Typhoid fever caused 1 610 deaths, scarlet fever 1 227, measles 880 whooping cough 1,020 Smallpox caused only 27 deaths in the State at large, but 281 deaths occurred in the metropolitan center total 308, only 40 deaths by that cause occurred in the last six months Diarrheal diseases presented a high mortality 8 036 deaths malarial diseases 122, and cancer 3 505 Consumption caused 12,824 deaths while acute respiratory affections were charged with 1 884 The mortality from consumption was equivalent to 108 16 out of every 1,000 deaths, an increase as compared with the totals for 1892 and 1893 a decrease as compared with the preceding years of that quinquennium There were 3,000 deaths charged against epidemic influenza or la grippe, which manifested its fifth recurrence beginning in December 1893 and lasting about four months The epidemic was less widespread and less fatal than in certain former years when as many as 4880 and 8000 deaths were referred thereto The total of deaths cited as "unclassified" 15 310, is an enormously high unknown quantity, when a comparison of causes is in question Old age is credited with 7 500 deaths, nearly, deaths by violence and accidents nearly the same total The estimated population for the State is not given in the printed "Summary" recently distributed, but from the Fourteenth Annual Report of the Board of Health we learn that the population was held to be 6,059,000, of which 3,350 000 dwelt in the maritime district

Sero-therapy and Sero prophylaxis —MM Le Breton and Magdelaine give an account in *Le Bulletin Medical* of their experiences with the diphtheria antitoxin in the Paris Hospital for Sick Children The diphtheria pavilion is divided into two rooms, one for boys and one for girls, each of which has a small room for isolation As all the children were placed before diagnosis in the same contaminated atmosphere the following routine was adopted Every child admitted to the pavilion was given an injection of 10 to 20 c c of serum *according to its condition or the* probability of its having diphtheria, this was done as soon as the child was seen either by the authors or by one of the attachés of the Pasteur Institute The injection was thus made before any bacteriologic diagnosis If the tube sown immediately, showed cultures of the Löffler bacillus on the second day, the injection marked the beginning of the curative treatment In the contrary case, it was purely prophylactic and children thus protected were allowed to remain the length of time necessary for their cure and no case of contagion occurred in the hospital No local treatment was used with the serum save irrigation with a weak Labarraque's solution (50 c c to 1,000), which has no therapeutic value and only served to detach the loosened membrane General tonic treatment was instituted, both for the disease and for complications There were 330 children admitted, 258 of whom had diphtheria Of these 258 only 31 died—12 per 100, and if we omit eight cases dying in the first twenty four hours the mortality is only 10 8 per cent Tracheotomy was performed twenty four times with nine deaths—37 5 per cent Intubation was performed in fifty-one cases of diphtheria with fourteen deaths—27 45 per cent Among these fourteen cases seven deaths occurred in less than twenty-four hours, so that there results, for serum-therapy and intubation, a mortality of only 18 1 per cent This death rate is very low especially when the period covered is considered—the months of October, November and December—and the further fact that many of the cases were very grave, 147 out of the 258 having mixed infections and these furnished 19 out of the 31 deaths The untoward effects of the serum were those previously noticed, in the 1,200 injections a slight redness developed at the site, but only one suppurated, some were followed by eruptions, (70 cases), in 140 cases albuminuria developed The authors however, conclude that on account of the elevation in temperature and possible renal complications, that the serum should no longer be used as a preventive in children exposed to diphtheria

Epidemic Diseases —Notwithstanding an increasing prevalence of influenza, the general death rate is not materially affected by this disease, except as it occurs as a complication of pneumonia Its incidence seems to be chiefly along the North Atlantic—New York and Washington being especially afflicted, but nowhere in this country has it attained the proportions which cable dispatches report in Great Britain, where it is estimated that about 15 per cent of the population are sufferers from the malady The well-informed London correspondent of the New York *Sun* reports that among those who are laid up with the distemper are Lord Roseberry, Mr Balfour, Mr Henry Irving, Lord Dunraven, forty-five members of the House of Commons, 20 to 40 per cent of the staffs of the principal banks, and one-third of the judges of the high courts The postal and telegraph services are seriously affected by the prostration of hundreds of employes by the disease He adds that, "Mr Walter Besant yesterday told of a golden wedding reception which was attended by one hundred guests a week ago Ninety of these are now in bed with influenza The number was increased to day (February 24) to ninety-one, for Mr Besant himself has been stricken " Dr Andrew H Smith, in the *Medical Record*, notes the changes of type that have occurred in the disease from year to year since 1889 At first, the respiratory conditions prevailed almost exclusively, but presently an abdominal form became frequent, and then cases were observed in which the nervous system seemed to bear the brunt of the attack Before the close of the second epidemic these several types—respiratory, abdominal and nervous—were pretty generally recognized, and were sufficiently distinct to serve roughly as a basis of classification By the third year the severity of the disease had greatly abated and the types became less characteristic During the latter part of last year's epidemic, a purely tracheal cough became a leading feature This year the same cough is present, but, in addition to it, there is a positive sense of soreness and discomfort in the trachea Another peculiarity more marked this year than before, is the occurrence of subnormal temperature after the subsidence of the febrile stage, suggesting the possibility of a production of secondary toxic material, having an action upon the heat centers directly opposite to that of the poison which was present at the beginning of the attack This subnormal temperature may persist for a week or more, during which time there is no other evidence of disease, unless it be a feeling of lassitude, with more or less mental depression, and perhaps an excessive amount of phosphates in the urine Dr Smith urges that 'the importance of avoiding exposure during convalescence can not be too strenuously enforced In every case in which serious complications have arisen under my observation, they were due to lack of care in this respect Too great haste to resume business or pleasure seeking is responsible for most of the fatality of the grippe "

The recent severe weather has enormously increased the death rate from pneumonia and bronchitis, and among the aged Diphtheria is declining in frequency and many observers note a lessening grade of severity So marked has been the decline in some localities—New York for example—that the Boston *Medical and Surgical Journal* suggests a causal relation between this phenomenon and the increasing use of the antitoxin Such relation is more than doubtful, however, at least in this country

The smallpox wave appears to be moving southward, in St Louis and other localities in the Mississippi valley although official reports are wholly wanting, there is, undoubtedly, a serious increase in the prevalence of the disease It is declining in Chicago, Milwaukee and Detroit, in the former city there were 20 new cases reported during the week ended February 27, making a total of 85 new cases during the month up to that date—total treated 202, discharged recovered 96, died 24, death rate 11 6 per cent In Milwaukee on the 25th ult, there were thirty cases remaining—ten in hospital and twenty in homes, eight new cases reported during the week

Prevention of Blindness —In New Jersey the following law has been favorably considered by the committees in both Houses, and it is hoped it will become a law

SENATE NO 91, STATE OF NEW JERSEY

Introduced Feb 4, 1895, by Mr Williams Referred to the Committee on Miscellaneous Business

An act for the prevention of blindness in the State of New Jersey

Section 1 —Be it enacted by the Senate and General Assembly of the State of New Jersey, That should one or both eyes of an infant become inflamed, swollen or reddened, or show any unnatural discharge at any time within two weeks after its birth, and no legally qualified practitioner of medicine be in attendance upon the infant at the time, it shall be the duty of the midwife or nurse, attendant or relative having charge of such infant to report in writing, within six hours, to the local Board of Health of the city, township or other municipality in which the parents of the infant reside

Sec 2 —And be it enacted, That the said Board of Health shall direct the parents or persons having charge of such infant suffering from such inflammation, swelling, redness or unnatural discharge of the eye to immediately place it in charge of a legally qualified practitioner of medicine, or in charge of the physician of the city, township or other municipality if unable to pay for medical services

Sec 3 —And be it enacted, That every local Board of Health in the State of New Jersey shall furnish a copy of this act to every legally qualified practitioner of medicine, and to each person who is known to act as midwife or nurse, in the city, township or other municipality for which such Board of Health is appointed, and the Secretary of State shall cause a sufficient number of copies of this act to be printed, and to supply the same to such officers for distribution

Sec 4 —And be it enacted, That any failure to comply with the provisions of this act shall be punishable by a fine not to exceed two hundred dollars, or imprisonment not to exceed six months, or both, upon conviction under prosecution proceedings to be brought by any local Board of Health

Sec 5 —And be it enacted, That this act shall take effect and be in force on the first day of May, one thousand eight hundred and ninety-five

The wording of this act is rather unusual, in that it imposes a penalty upon parents for the neglect of their children This is apparently rather harsh, as it is naturally supposed that parents would do all in their power without the fear of any such law The practical fact is, however, that this form of cruelty to children too often passes unnoticed and inasmuch as a large number of these individuals made blind by such neglect subsequently become charges upon the State, it is but right the State should recognize the danger and impose penalty upon parents, as well as nurses who are too ignorant or too negligent to take the precautions necessary It is hoped that the bill will pass in its present form and it would be well if as strong a law could be enacted in other States

NECROLOGY

Louis Conrad, M D, of Brooklyn, N Y, died January 25, aged 37 years He was a native of New Jersey, born of German parents, and had been in the practice of medicine since 1887, in which year he was graduated from the medical department of the New York University His entire professional life had been passed in Brooklyn His final illness was the result of an acute pulmonary tuberculosis that made its presence known about four months ago

HENRY V BYRNE, M D, of Brooklyn, N Y, February 17, the youngest son of Dr John Byrne, the well-known gynecic surgeon of St Mary's Hospital, has died at the early age of 24 years He was graduated from the University of Vermont Medical Department in the class of 1892 He was a young physician of rare qualities and promise, his untimely death was due to pulmonary tuberculosis of about one year's duration

FERDINAND WILLIAM OSTRANDER, M D, the oldest physician of Brooklyn, died January 20, in consequence of an attack of influenza with certain of the complications incident to age He was a native of New York City, born there over ninety years ago He received, in 1825, his license to practice from the New York County Medical Society, which at that time had a legal status affording many rights and privileges not now possessed by the county organizations He was for sixty-two years a resident of Brooklyn, with a very considerable practice among the old Long Island families Not a few members of the Ostrander family have followed honorably the profession of medicine The subject of this notice has surviving him a son who is a physician in the same city Dr Ostrander retired from active practice about ten years since In 1835, when an epidemic of cholera afflicted the western end of Long Island, he was one of the staff of physicians officially engaged to care for the sick of the village of Brooklyn, it is recorded that there were ninety cases, with thirty-five deaths He was a member of his county medical society over sixty years

ROBERT GRAFTON NOLAN, M D, of Bergen Point, New Jersey, died, aged 38 years, Jan 23, 1895 He took his medical degree in 1877 at the University of Vermont His fatal malady was pneumonia He leaves a widow and one child

J R LESTER, M D, of Lebanon, Tenn, February 11 —— James Nichols, M D, of Bradford Pa, February 16 —— S P Phillips, M D, of Ashland Ohio, February 9, age 41 —— A L Bronmessette, M D, of Stafford Springs, Va, February 17 —— W H Trigg, M D, of Booneville, Mo, February 21 —— C H Smith, M D, of Nyack, N Y February 16 —— G S Comine, M D, Miller's Falls, Mass, February 19 —— O H Menees, M D, of Nashville, Tenn, February 17 —— H L V Dubois, M D, of Portsmouth, N H February 24 —— M D Gordon, M.D, of Huey, Ill, February 23

SELECTIONS

Etiology of Endometritis in Pregnancy —A writer in the *Wiener Klinische Rundschau* had previously at Berlin reported two cases of endometritis of the decidua, in which he had succeeded in demonstrating in the decidua numerous diplococci, at times plainly intracellular, but at that time no cultures were attempted Recently one of these two patients again came under his observation at the Policlinic of Professor Veit The decidua area was thickened to two and one half to three cm, intensely yellow and still remained *in situ* Histologically the process appeared chiefly as a small-celled infiltration Among these cells were found a multitude of bacilli, at times joined in longer strings which were cultivated on agar agar and gelatin These bacilli are small rods, rounded at both ends, and of moderate thickness, they show a great similarity to the bacterium coli commune, but are distinguished from it by their behavior under Gram's method On account of the circumstance that the demonstration of these microörganisms occurred twice in the same patient, the writer believes that he can ascribe to them a prominent role in the etiology of endometritis

Peri and Para Metritis —In the *Centralblatt für Gynäkologie* a compilation has been made from forty-four cases of all those inflammatory processes of the uterus and its appendages which so frequently result from childbirth, abortion or gonorrhea Several cases of salpingitis may have been included on account of difficulty of diagnosis In old exudates a mere puncture was generally sufficient, in acute processes with rapid collection of pus a more extended incision, many times also drainage Of the forty four cases thirty four recovered nine were improved and one died of tuberculosis of uterus and peritonitis, twenty three were incised, nineteen punctured, and twice there was spontaneous rupture into the vagina The contents were generally pus, at times a bloody serum or clear serum The quantity varied from one c c to one liter Length of treatment four days to five months

Tuberculosis of Iris —Dr Hans Adler has exhibited a case of tuberculosis of the right iris in a young woman This affection he states, is marked by a number of grayish white nodules, from the size of a poppy seed to that of millet which lie principally in the ligamentum pectinatum This condition may be differentiated from gummata in that the nodules are grayish red in the latter, while sarcoma is not multiple The history will usually aid in diagnosis —*Wien Klin Rundschau*

MISCELLANY

Seasonable —*Les Nouveaux Remèdes* offers the following seasonable suggestion of an application for chilblains Tincture of digitalis, 6 grams, thymol, 3 grams, alcohol, 150 grams glycerin, 150 grams Mix To be rubbed on the affected part

Bellevue Hospital College Alumni.— A newly organized alumni association of the Bellevue Hospital Medical College on February 20, held its first anniversary meeting and banquet, under the presidency of Dr George A Evans At an election then held Dr R M Wyckoff was chosen to succeed Dr Evans as President for 1895-96

Bequests for Portland Charities —The will of the late Ira Farrington, of Portland, Me, gives sums varying from $2000 to $10,000 to certain named public charities Of the residuary estate, the two-thirds part goes to the Maine Eye and Ear Infirmary at Portland, while the remaining third is devised to the Public Library

The Doctor in Fiction.—The *Lancet* is fond of quoting the favorable views that writers of fiction are pleased, at times, to take concerning the profession of medicine The following is one such view, appearing in an American serial publication recently "Our doctors have to live, of course, but they are kind-hearted as a rule, and take more interest in setting their patients on their feet than in pursuing people for their pay"

Hippopyrrhin —Dr Badour, of Palaiseau, a retired French army surgeon, suggests "hippopyrrhin" as an appropriate name for the diphtheria antitoxin—compounding the word from ἵππος, a horse, and πυρρός = red, in recognition of the equine and of Dr Roux (*roux*, red) This may be, as the *British Medical Journal* says, a dainty device of philological ingenuity, in which "is enshrined a double barreled compliment" But has Dr Badour taken into the account one Behring of Berlin, who seems to have some claim to recognition in the distribution of prenominal compliments?

New York Bacteriologic Bureau —One of the recent appointees at the New York Health Board's laboratory for the production of the antitoxin of diphtheria is Dr Anna Williams She is a medical graduate, and an assistant in the pathologic laboratory of the New York Medical College for Women Having early taken a predilection for research in pathology, she took special courses at Leipsic, and elsewhere in Germany, in lines that have fortunately fitted her for advanced bacterioscopic work She was admitted to study in the bacteriologic bureau of the Board of Health after a careful examination, during which she readily demonstrated a marked ability in the identification of bacteria Dr Williams was one of the first of the eligible candidates to be proposed for a place in the Bureau of Dr Biggs, when it was determined to increase the staff for the purposes of producing the new antitoxin Her age is quoted at 25 years The moderate salary of $100 per month is allowed for her expert services

Malakin as an Antipyretic and Antirheumatic—Dr Robert Abernethy is strongly impressed with the results of malakin in cases of pyrexia of rheumatic and other origin He details (*Edinburgh Medical Journal* February, 1895) a striking instance of frequent, aggravated, pyrexial outbursts in a case of acute rheumatism, promptly relieved by 15 grain doses of malakin thrice daily, after more than three months of unsuccessful routine with salicin, sulphate of quinin, ice-packs, etc He has since given it, after other antipyretics had failed, in a good many cases of pyrexia due to various causes, among others, a case of rheumatic fever, with advanced mitral disease, in which it controlled the symptoms admirably without apparently causing any considerable depression, also in two cases of croupous pneumonia in children of 9 and 11 respectively, in which it seemed to have a beneficial effect, both making remarkably good and speedy recoveries [See also this JOURNAL for February 9]

Physical Degenerdcy in Prostitutes—In his "Etiology of Osseous Deformities," Dr E S Talbot traces the association of physical degeneration with the criminal classes and has made some interesting observations on the anomalies found in prostitutes, showing that these women are a class in themselves, presenting marks of arrest of development and physical and mental degeneracy The cases examined were not selected, but were taken as they occurred in hospital from those not disfigured by syphilis In 150 prostitutes thus examined the following abnormalities were noted

Malformation of the head	62
Development of occipital protuberance	62
Very receding forehead	18
Hydrocephalic	15
Various anomalies of the face, prognathism, etc	64
Ogival palatine vault	38
Congenital division of palate	14
Vicious implantation of teeth	62
Hutchinson's and Parrott's teeth	19
Absence of lateral incisors	10
Badly margined ears (Morel)	16
Defective ears, deformed, etc	47
Anomalies of extremities	8
Local asphyxia	2

The comparison of these cases with educated women and illiterate peasants is interesting, 82 per cent of the prostitutes present more than a single anomaly, while among educated women there is found only 2 per cent, and in the peasant class 14 per cent

Liquor Potassae in Chloral Poisoning—In a brief paper in the *Glasgow Medical Journal* (February, 1895), Dr John Dougall points out that whatever facts or theories there may be regarding the *modus operandi* of the hynotic and anesthetic action of chloral, there can be no doubt about its chemic composition and affinities, and, in particular, that it is almost at once decomposed, at and above 60 degrees F, outside the body, by an alcoholic solution of KHO, and, somewhat less quickly, by an aqueous solution of the alkali Therefore, assuming that a person has swallowed a poisonous dose of chloral—say 80 grains, as was *done inadvertently* by the late lamented Professor Tyndall—and that there could with safety be given, as a chemic antidote, 27 grains of KHO—*this* amount being the quantity by weight required to decompose 80 grains of chloral, there are strong *a priori* grounds for assuming that in about fifteen minutes the chloral in his system would be entirely changed into formate of potassium and chloroform, or at least, that so much of it would be decomposed that the residue would be harmless As a matter of practice Dr Dougall would give, in such a case as Professor Tyndall's, 220 minims of liquor *potassæ*—equal to 14 grains of KHO—highly *diluted in* warm milk, gruel or barley water, in two doses, an hour apart If this were given before the patient was too far gone the amount of chloral in the system would soon be reduced to a quantity quite within the bounds of safety for an adult, providing there is no heart trouble

The Army Medical School, Netley, England—The sixty ninth session of this school was brought to a close on January 31, when twelve surgeons on probation were successful in passing the examination for the British, and fourteen for the Indian Medical Service The address to the young officers was delivered by W H Russell, LLD, the veteran war correspondent of the *London Times*, who achieved prominence in the literary world during the Crimean War and who has since accompanied troops in no fewer than nine campaigns He referred at length to the difficulties experienced in the Crimea by the Medical Department of the Army, mentioning the names of many medical officers who were crushed under a weight of obloquy for what they could not help They could not make bricks without straw They could not save the lives of those who were perishing with hunger, cold, want of medicine, clothing and everything needful to keep them alive At that time the Medical Department was not responsible for the arrangements for the cure of the sick and wounded Now, all this is changed He complimented the Director General, Sir William McKinnon, the Indian veteran, Sir Joseph Fayrer, and Sir Thomas Longmore, the only survivor of those present at the inauguration of the Army Medical School by Sidney Herbert in 1860 Surgeon-General Maclean also addressed the young officers wishing them a successful, happy, honorable and useful career

Observations on Tertiary Syphilis—In a paper read before the Fourth German Dermatological Congress, Ehlers, of Copenhagen, presented statistics of 6,816 cases of syphilis under treatment from 1864 to 1881 in the Communal Hospital of Copenhagen In the résumé given in *Ann de Derm et Syph* these statistics show that tertiary lesions are more *common* in the first four years As regards the infectiousness of tertiary phenomena Ehlers thinks that we must revise our opinions Gummata of the genital organs are especially suspicious, and he cites a case Patient infected and treated for three years, married, two healthy children were born and his wife was not infected, eight years after the infection the patient had an ulcerating gumma on the penis, which healed badly, two weeks later his wife had a maculo papular eruption Ehlers makes the following summary of his observations 1 Tertiary symptoms were observed in from 12 4 to 22 per cent of all syphilitics treated in the hospital 2 Tertiary as well as secondary symptoms are 10 per cent more frequent in the male, females are not so subject to tertiary symptoms 3 Tertiary lesions are observed principally on the skin—1,385 times on the skin alone, 139 times on skin and bone, next come ulcerative and destructive processes of the tongue palate, nose, air-passages—390 cases, in the third place come the nervous lesions—261 cases—which are, in reality, by far the most frequent but often escape the notice of the syphilographer, if there be added to this group, tabes dorsalis, *general* paralysis and syphilitic encephalopathy the number of nervous lesions will be *increased* to 463, lesions of connective tissue occupy the fourth place in point of frequency, the frequency of syphilis in the internal organs can not be determined 4 The most common cause of tertiary manifestations s the absence of mercurial treatment or its imperfect and defective exhibition, in 107 cases—7 12 per cent —it was not possible to learn the previous treatment, in 605 cases—43 61 per cent —no mercurials had been given, in 606 cases—40 38 per cent —the primary lesion alone had been treated with mercury, and in 133 cases—8 86 per cent —mercury was given only during one or two exacerbations 5 Tertiary lesions are observed to be most frequent during the first four years, and the maximum in the first two years, after infection, they are rare beyond twenty years but in some cases have been noted as late as forty years after infection

The Opium Inebriety of the Chinese —An educated Chinaman, the Rev Poon Chu, had occasion to address a San Francisco audience on the comparative evils of alcohol and opium as intoxicants He stated that he had found one striking difference between the effects of the opium vice among his countrymen and those produced among Americans by alcoholic intemperance "When the Chinese opium smoker comes home he does not abuse his children and kick his wife, his wife kicks him" This happy hit brought down the house," and was widely quoted as a specimen of Chinese wit

Mithridates' Antidotes —An anonymous writer in Dr Thomas M Dolan's always interesting *Provincial Medical Journal*—the article is probably by the erudite editor himself—tells of an hour or two spent with an old tome, 'Culpeper The English Physician Enlarged which he picked up to while away the watch of a critical case He has this to say of Culpeper and Culpeper's defense of Mithridates—him surnamed 'the Great," feared of the Romans and fabled to have fortified himself against poisons by feeding upon them

Mithridates, the Pontian king, has lately been much in evidence Dry as dusts have raked up his name, to claim for him the credit of forestalling Pasteur Roux, and Behring in immunizing against disease so I read with some interest Culpeper's description of the Mithridatic antidote 'The antidote used by Mithridates, every morning fasting, to secure himself against infection was this Take twenty leaves of rue, a little salt, a couple of walnuts, and a couple of figs, beaten together into a mess with twenty juniper berries' Culpeper waxeth somewhat indignant What an infamy is cast upon the ashes of Mithridates (or Methridates as the Augustins read his name) by unworthy people They that deserve no good report themselves, love to give none to others That renowned King of Pontius fortified his body by poison against poison *He casts out Devils by BeeLebub, Prince of Devils* What a sot he is that knows not that if he had accustomed his body to cold poisons, hot poisons would have dispatched him, on the contrary, if not, corrosions would have done it The whole world is at the present time beholden to him for his studies in physic and he that useth the quantity but of an hazel nut of that receipt every morning, to which his name is adjoined, shall to admiration preserve his body in health, if he do but consider that rue is an herb of the Sun and under Leo, and gather it and the rest accordingly'"

NOTE —The editor of this JOURNAL has in his collection the following books of "Nich Culpeper, gentleman, student in Physick and Astrology "

1 Two Books of Physick I Medicaments for the Poor, or Physick for the common people II Health for the Rich and Poor, by Diet without Physick, by Nich Culpeper Student in Physick and Astrology Also Culpeper's Ghost is hereto added, being a book of Truth, Wit and Mirth London Printed by Peter Cole in Leaden Hall and are to be sold at his shop at the sign of the Printing Press in Cornhil, neer the Royal Exchange, 1656

2 The English Physician Enlarged with Three Hundred, Sixty and Nine Medicines made of English Herbs that were not in any impression until this The Epistle will inform you how to know this impression from any other (&c, &c) London Printed by Peter Cole, 1656

3 Pharmacopœia Londonensis, or the London Dispensatory, further adorned by the studies and collections of the fellows now living of the said Colledge London Printed for George Sawbridge at the Bible on Ludgate Hill 1675

Hospital Notes

SETON HOSPITAL, at Spuyten Duyvil, N Y, which was opened New Year's Day has already given treatment to between twenty and thirty patients Almost all of them are of a class for which the charity was instituted namely, consumptives in the early stages of the disease Dr J West Roosevelt, the physician in charge, seeks to afford the patients exceptionally favorable sanitary conditions diet and treatment Four endowments of beds have been received It is non sectarian ——Under the will of the late John P Rolfe, of Brooklyn the City Hospital of that place will receive a donation of $10 000 A like amount was devised to the Old Men's Home ——Under the will of the late Henry Saltonstall, the Massachusetts General Hospital receives a bequest of $10 000 as a general expense endowment The Boston Eye and Ear Hospital falls heir to an equal sum, while $20,000 is set apart for charities to be selected by the trustees named in the will ——The Episcopal Hospital, Philadelphia, has received the sum of $20 000, under the last will and testament of the late Lemuel Coffin, of that city ——Plans have been prepared for a five story addition to the Roosevelt Hospital New York, to cost $125 000 —— Luther C Derr M D, has been appointed Superintendent of the Montrose Hospital at Frederick Md

Louisville Notes

KENTUCKY PHYSICIANS —There are in Kentucky at present 2,814 registered physicians and a few others who are practicing medicine illegally The law requires all physicians to register their certificates with the county clerk, and those who fail to do so are liable to punishment by fine The diploma of the applicant must be passed upon by the county referee appointed by the State Board of Health No unregistered physician can legally collect a bill

SCARLET FEVER —There is at present an epidemic of scarlet fever at Williamsburg, Ky The primary and intermediate departments of the schools have been closed Already two deaths have resulted

HOSPITALS FOR INSANE —The improvements at the Eastern Lunatic Asylum, Lexington, Ky, are almost completed The last Legislature authorized the expenditure of $30,000 for this purpose The improvements include the erection of a new building for the accommodation of the officers of the asylum and a new ballroom The new building is a pressed brick structure of three stories and basement, is connected with the main building by a tunnel, and on the level with the first floor is a glass covered hallway running from the new to the old building The old offices which were large old fashioned rooms, will be transformed into private rooms and wards, as will also the ballroom and in this way the capacity will be increased 150 or 160 It is hoped that enough money will be saved from the regular appropriation to equip the institution with its own electric light plant within the next year There are at present at the asylum 795 patients, 410 of which are males, 104 are black, one half of that number are men This is the third oldest lunatic asylum in America, having been established in 1824

CENTRAL KENTUCKY LUNATIC ASYLUM —The annual report of the Central Kentucky Lunatic Asylum has just been published The report of Superintendent Pusey shows that the number of patients in the asylum on Sept 30, 1894, was 1 008 The total receipts for the year were $150,699 90, the expenditures $148,767 01, leaving a balance in the treasury October 1, of $1,932 89 The question of relief from the sewage disposal of the institution is a grave one, considerable money having been spent in the last year in defending suits for damages and abatement of nuisance Colonel Hering, of New York, has decided that chemic sedimentation was the only practical method of purifying the water before it left the asylum grounds A plant for this purpose would cost about $6,000, and when completed $5 a day to operate it $65,000 is soon to be expended in the erection of new buildings provided for by the last Legislature

Hydrophobia —Hydrophobia has been almost epidemic in Wayne County for nearly two months past It originated with a dog near Frazer, Ky, in the eastern part of the county, and after biting a son of J S Shadoan, came in the direction of Monticello, snapping at every obstacle in its way, when it was finally killed Since then, twenty-five or thirty head of stock have died with hydrophobia The son of Mr Shadoan was taken to Chicago for treatment

Mortality —In all there were seventy eight deaths in the city during the past week Pneumonia still heads the list with twenty four, consumption eight, appendicitis one, typhoid fever three There were forty-nine male and twenty-nine female, fifty-six white and twenty-two colored Five of the deaths occurred at the City Hospital

Washington Notes

Medical Society of the District —At the meeting of the society held on the 20th inst, Dr James Kerr reported a case of gunshot wound of the liver in a child of 13 years, with recovery after suture of the organ The continuous silk suture was used The child was exhibited to the society Dr Kinyoun, U S M-H Service, suggested the use of sterilized bone pins with figure-of-eight suture as used in hare-lip, and cited some experiments made on rabbits to prove the value of the method Dr Lamb presented a uterus with sloughing perforation, resulting from abortion, a uterus showing primary tuberculosis and a case of secondary tuberculosis of the Fallopian tubes

To Investigate Pollution of Water Supplies —Speaker Crisp has presented to the House a memorial from Major Charles Smart of the Surgeon-General's office, United States Army, communicating a resolution of the American Health Association in favor of the bill introduced in the House by Mr Bartholdt, of Missouri, authorizing the appointment of a commission to investigate the pollution of water supplies where such pollution affects the sanitary condition of the people of more than one State

Health Officer's Report —The report of the Health Officer for the week ended February 16 is as follows Number of deaths (still-births not included) White, 61, colored, 53, total, 113, death rate per 1,000 per annum, 15,86, white, 38 46, colored, 19 91, total, 22 91 There was a slight increase in the death rate during last week as shown by the reports received at the Health Department From 17 9 it raised to 19 9 That this was due to the intensely cold weather, which averaged 3 degrees below the freezing point, is evident from the large increase in the number of fatal cases from pneumonia and congestion of the lungs The mortality from these amounted to twenty-seven as against fifteen for the previous week There was no case of death from typhoid fever, nor any of the malarial fevers, and but one death from diphtheria occurred No new cases of smallpox have been reported and those who have been under treatment for this malady are doing well The city is comparatively free from other dangerous contagious diseases

Health Department Ruling —No pay will be allowed for clothing and property destroyed by order of the Health Department The attorney for the District rendered an opinion to the Commissioners regarding the claims of Messrs George L Anderson and Charles E Williams, for $74 15 and $68 50 respectively, being the values given by them of their wearing apparel, etc, alleged to have been destroyed, by direction of the Health Department, to prevent the spread of smallpox The health regulations in regard to smallpox provide, among other things, that the inspector detailed to attend to the removal of smallpox patients shall fumigate and disinfect the dwellings where smallpox cases occur, and he shall see that the clothing is properly disinfected, packed up, carried safely to the almshouse and destroyed, and that he shall keep an account of the clothes or furniture which has been destroyed, the probable value of the same and the names of the parties to whom they belong and give a receipt for the same The law does not provide for payment under any circumstances, but only for an inventory of "the clothes or furniture of poor persons, which has been destroyed" The destruction by the Health Office of the furniture and wearing apparel of these claimants was for the benefit of the public in order to prevent the spread of an infectious disease In such cases there is no common law liability The destruction of clothing and furniture, says the attorney, to prevent the spread of smallpox is like the destruction of houses to prevent the spread of conflagration, and is not a taking of private property for public uses, for which compensation is to be made He says that these claimants are not within the class of "poor persons" designated in the statute The destruction of the articles for which claim is made appears to have been made at the direction of the claimants themselves, according to the report The attorney is of the opinion that the claims are not well founded at law, and should be refused

Appropriation not Agreed to —The Conference Committee has decided to strike out the clause appropriating $1,400 for a deputy coroner for the District and $600 for an assistant chemist for the Health Department Both should have been provided for as the officers are very necessary to the city

A Statue of Dr Gross —The House passed the Senate bill granting permission to the American Surgical Association and the Alumni Association of the Jefferson Medical College to erect a statue to the memory of Samuel D Gross in this city The bill appropriates $1,500 for a pedestal

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THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army from Feb 16 1895 to Feb 21 1895

First Lieut Henry C Fisher, Asst Surgeon extension of leave of absence granted is further extended one month

Capt Henry P Birmingham Asst Surgeon, is relieved from duty at Ft Grant, Ariz Ter and ordered to Ft Trumbull, Conn, for duty relieving Capt Freeman V Walker, Asst Surgeon Capt Walker, on being thus relieved, will proceed to Ft Grant, Ariz, and report for duty at that post

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending Feb 23 1895

P A Surgeon Clement Biddle, ordered to Naval Hospital Chelsea Mass

P A Surgeon L W Atlee, ordered to Naval Hospital, New York, N Y.

P A Surgeon F A Hesler, ordered before Retiring Board

LETTERS RECEIVED

Baum, F, Kansas City, Kan (2) Bullington, T A Louisville, Ky Brashear, B B Cleveland Ohio, Bernd, Henry & Co, St Louis Mo Burroughs H S Pittsburg, Pa

Cincinnati Hospital Library, Cincinnati Ohio, Cutler, John A, New York City Clarke, A P Boston, Mass (2), Crosby, W E, New York City, Coggeshall, L Chicago Ill Chambers J H & Co, St Louis, Mo, Crawford W F Stanford, Pa, Cantrell, G M D, Little Rock, Ark Corr A C Carlinville, Ill, Cross E, Monterey, Mexico

Drevet Mfg Co, New York City, Damrell & Upham, Boston, Mass, Drysen & Pfeiffer, New York City

Eads, S O Beaver Crossing, Neb

Frick, Robert J, Louisville, Ky

Hummel, A L, Philadelphia, Pa Hudson, W G, New York City, Hunt, W L Bangor, Maine, Hoyt, A S New York City Heuel, Emil, New York City

Kuehn, Rolando Bluefields Nicaragua.

Lower, H J Irwin Ohio Lea Bros & Co, Philadelphia, Pa

Moore's Newspaper Subscription Agency, Brockport N Y Medical Novelty Co, New York City Miller, C N, San Francisco, Cal, Mishoff, J D, Milwaukee, Wis

O'Neill, A, Lubeck, W Va, Orton, J G, Binghamton, N Y

Petty, C W Hartford, Conn Pantagraph Ptg and Sty Co, Bloomington, Ill Packard J H, Philadelphia, Pa Publishers' Collection Agency, St Paul Minn

Rational Chemical Co St Louis Mo Runnion, Dr, Arcadia, Kan

Stearns F & Co Detroit, Mich Smith John Day, Minneapolis, Minn St Peter State Hospital, St Peter, Minn

Thompson, C M, Elk Rapids, Mich The Sanitarium, Battle Creek, Mich, Todd, F W Lamanda Park, Cal Thomason, H D, Albion, Mich Telegraphers The Publishing Co, Vinton, Iowa

Vose, J A Advertising Co New York City, Vail, A M, Rock Rapids, Iowa Vaughan W R, Nesbitt, Texas

Wiggin W H Jr & Co, Chicago, Ill Whitman, B T Chicago, Ill, Wishart J S Toronto, Canada, Westervelt, J D, Alice, Texas, Westermann, B & Co, New York City, (2)

Zinser, S L, Minonk, Ill

The Journal of the
American Medical Association

Vol XXIV CHICAGO, MARCH 9, 1895 No 10

ORIGINAL ARTICLES

ANTI-TUBERCLE SERUM

THE TREATMENT OF CONSUMPTION BY SEROTHERAPY—REPORT AND PRESENTATION OF CASES TREATED—EXHIBITION OF SERUM, ETC

Read before the St Louis Medical Society

BY PAUL PAQUIN, M D
ST LOUIS MO

Preliminary Remarks—It would seem superfluous to say a word here on the pathology of this affection But the nature of the new treatment demands that we refresh our memory on some points of it before certain therapeutic questions to be dealt with presently may appear clear The result of my observations and researches have convinced me beyond a doubt that tuberculosis, in the stage of lesions, particularly when pulmonary cavities, intestinal ulcers, etc, exist becomes a mixed infection, due to the introduction of various other pathogenic microbes besides the bacillus of tuberculosis in the specific wound Myriads of germs of the air, water and food gain access to tuberculous lesions and complicate the primary disease to a very grave degree The destruction of tissue by these germs, the production of new mixed poisons, perhaps more dangerous sometimes because of chemic combinations, are largely responsible for the irregular chills, fevers and some other pathognomonic phenomena to be seen in advanced tuberculosis These complicated microbic disturbances which so greatly depress and harass the system are, perhaps, assisted in their nefarious work by the toxins generated in a weakened impaired digestive tube which, failing to digest the food properly, leaves it the prey of various toxic-ferment manufacturing microbes It is well to bear these points in mind when considering the anti-tubercle serum as a therapeutic agent in tuberculosis, for it probably will not improve complicated cases

On the other hand, in tuberculosis we should never lose sight of the natural vital resistance of the exposed or suffering individual It is this *vital resistance* of nature that saves the minority who escape all the damaging influences of the disease, and the principles underlying it explain the serum therapy To understand this vital resistance, its nature and its scope and increase it in medical practice, is to wield a powerful weapon against the foe The cursory method of diagnosis, therefore, merely by the interpretation of physical signs is not sufficient to put the doctor in possession of all the important facts necessary for an accurate interpretation of tuberculous phenomena and the proper treatment The microscope should be brought into play early and often, not only to discover the existence or absence of the bacillus of tuberculosis, but also to establish the differential nature and stage of the organic lesions as far as possible and to realize the nature and extent of the mixed infection when it exists

SEROTHERAPY IN TUBERCULOSIS

I began the serious study of tuberculosis and experimentation in 1888, at the University of the State of Missouri at Columbia During my service at that institution I had unsurpassed opportunities for studies in comparative pathology and experimentation Early in my researches on tuberculosis, I became convinced that the equine species is, to a certain degree at least, naturally immune to the disease, the ass being less susceptible, possibly, than the horse, although I am by no means convinced of this Later, following step by step the work of Metschnikoff on the theory of phagocytosis, Kitasato and others on the antiseptic properties of blood serum, I formed the conclusion that the chief and direct basis of immunity was lodged in the blood When the Japanese scientist just mentioned and others, published that properly immunized blood serum was efficacious in the treatment of tetanus, revealing by this momentous discovery the great secret of nature's force in resisting this disease, the light began to dawn in my mind, as in that of every medical man doubtless, to the effect that the prevention and cure of contagions by the use of nature's own remedy was only a question of time Not many years after, came the welcome announcement that diphtheria was curable by the use of a specially immunized blood serum The press also reports that investigators in Switzerland and France are testing the blood serum of the ass Now, I beg to report that by the same principle which underlies the antitoxic serum of Kitasato for tetanus, of Behring and Roux for diphtheria, horse blood serum may be rendered more antagonistic to tuberculosis than it is naturally This I have accomplished, in laboratory experiments and the result obtained in treating consumptives in the first and second stages, and some in the third stage, indicates quite pointedly that serotherapy will perhaps master this dreadful plague Indeed, I dared not hope for such universal improvements as were obtained While in advanced consumption with cavities or other serious lesions impairing important organs gravely, I have not yet arrived at a point where I may formulate reliable deductions, a large per cent of such cases very seriously involved, increased in six to eight weeks from five to sixteen pounds in weight without any tonic, and without any specially reconstructive diet, only the regular city hospital or poor house fare being admitted, certainly not over nutritious, whereas every witness case in the same ward, suffering with the disease in practically the same stages, untreated by blood serum continued to decline steadily or failed of improvement Furthermore, the treated

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Note.—The scientific experiments carried on then and since, both in the laboratory and the field, will form the subject of a special paper This will contain explanations and results as per records kept cases soon began to sleep better, to cough less, expectorate less, eat with relish and their night sweats diminished In a couple of instances in the first and second stage, cough and expectoration ceased entirely in less than eight weeks, while all the general signs of good health reappeared There is scarcely enough expectoration in these to make microscopic analyses, and the germs are no longer to be found I have also several cases with large cavities which have improved remarkably I have brought here to show you, some of the worst which we have under treatment, that you may judge for yourself of the nature of the affection and its lesions These bad cases with marked alterations of the lung tissue have gained in weight, a number of pounds in eight weeks and have improved in every way Two of these were stretcher patients when brought to the city hospital Both had been condemned as hopeless by several physicians One of these weighs now more than he ever did at his best, when he was perfectly sound and healthy We have not had any case of any kind under treatment longer than eight weeks, and obviously it is too early for me to express unqualified conclusions, particularly on the serious conditions which to be cured, demand that nature shall build new tissues to fill the gaps But that serotherapy will prove eventually efficacious to arrest consumption, I feel almost assured

None of the improvements can be ascribed to mental influences, as it was in nearly every case against the will of the patients that we injected them For four weeks or more they fought and objected, and only after realizing themselves the benefits did they submit gracefully

These results surely point to good grounds to hope for more success Indeed, if in such a short time under such circumstances and in such surroundings one can put flesh and fat on a consumptive, while untreated witness cases under the same conditions continually fail, or at best hold their own, what may we not hope if consumptives in the first and second stages, at least, are placed in a modern sanitarium, or kept in their homes even and surrounded by all the cares and necessities for the rich reconstructive diet that should be granted such unfortunates? What may we not expect if we give them, furthermore, all the sanitary conditions that may aid nature to cure or arrest tuberculosis in any event?

RECORD OF CASES [2]

Mike Morley, age 53, pulmonary tuberculosis in the second stage, has been ill seven years, family with history of tuberculosis Left lung affected below the scapula at the back, dullness of the apex Circumference of the chest in expiration 36, inspiration 37 5 inches Coughed seriously and considerably Expectoration was yellowish, blood tinged, sometimes pure blood Bacilli of tuberculosis numerous Began treatment Dec 1, 1894 Weight 165 pounds Lung vital capacity, 110 cubic inches of air January 26, weight 170 pounds, an increase of 5 pounds in fifty-seven days Lung vital capacity 110 cubic inches of air

Charles Reck, age 48, began treatment Nov 30, 1894, discharged January 3 Was brought to City Hospital on a stretcher, could barely rise on his chair to eat During thirty-six days' treatment gained nineteen pounds This man had tuberculosis of the lungs in the third stage,[3] duration two years Bacilli of tuberculosis profuse, cavity in the left infra-clavicular space, expectorated a considerable amount of blood and sputum

Phil Hye, age 35, pulmonary tuberculosis, second stage Coughed six years, was very emaciated, had dullness and softening in one or both apices Chest during expiration thirty inches, inspiration thirty-one Tubercule germs present in abundance Coughed constantly night and day, mucopurulent expectoration Began treatment December 1, weight eighty-one pounds, was sleepless January 26, weight eighty-nine pounds, a gain of eight pounds in less than eight weeks Cough disappeared almost entirely, sleeps well This patient was very weak on entering the City Hospital He had been sent here from Texas, having been given up as hopeless, he said, by Dr Jestus, city physician of El Paso, Texas, and Dr Menger, of San Antonio, Texas He was sent home to die, being considered hopeless He stated that he had also been condemned as hopeless by a physician of Alexian Brothers Hospital of Chicago, where he had been under Koch's treatment This patient is now around and about He walked several blocks from the street cars to come to the meeting of the medical association, in the raw evening atmosphere and in muddy snow He coughs little or none

George Dobson, age 28 years, seriously ill two months previous to treatment, pulmonary tuberculosis in the second stage, had had hemorrhages occasionally, had dullness in right apex in infra-clavicular region, expectoration scant Began treatment December 1, weight at that time 107 pounds, weight January 26, 117 5 pounds, a gain of 10 5 pounds in eight weeks Vital capacity at the beginning of treatment, 100 cubic inches, vital capacity January 26, 150 cubic inches, a gain of 50 cubic inches

John Smith age 23, pulmonary tuberculosis, third stage, duration two years, mother had died of consumption Lost thirty pounds in two years, affection below the left apex, large cavity, coughed particularly in the morning Weight December 1, 145 pounds, vital capacity 170 cubic inches Weight January 26, 154 pounds, a gain of 9 pounds in eight weeks Vital capacity 180 cubic inches, a gain of 10 cubic inches

Otto Maye, age 58, pulmonary tuberculosis Had been suffering for several years Appetite very poor, coughed considerably, had had slight hemorrhages several times in the morning Bacilli of tuberculosis present Weight at the beginning of treatment December 1, 135 pounds, lost flesh gradually until he reached 131 pounds on January 1 Is now gaining and has gained two and one-half pounds between January 1 and January 26 Vital capacity at the beginning of treatment 110 cubic inches, January 26, 160 cubic inches, a gain of 50 cubic inches This patient is one of those that had an abscess during the process of treatment He is now gaining

Nicholas Robinson, age 61, pulmonary consumption in second stage, duration two and a half years His mother died of consumption Had had several hemorrhages, night sweats, coughed seriously at nights, expectoration considerable, specific germs present Affection is in the infra- and supra-clavicular regions, both sides, dullness was quite marked, softening on one side Weight at the beginning of treatment 119 pounds, weight January 26, 131 pounds Has gained twelve pounds in about or less than two months Vital capacity 150 cubic inches, December 1 Vital capacity January 26, 180 inches, a gain of 30 cubic inches This patient was very weak, could not speak when he was brought to the hospital He was given up as hopeless Mild laryngeal tuberculosis existed Was sleepless Now sleeps well, coughs very little, has a good appetite and feels stronger

John Cummings, age 49 years Weight 90 pounds December 1, weight January 26, 106 pounds, a gain of 16 pounds in two months Vital capacity December 1, 100 Vital capacity January 26, 110, a gain of 10 inches This man had had frequent hemorrhages during last summer, and before that, and was almost bed fast He was very emaciated The bones almost protruded as a nurse expressed it The bacilli numerous The nurse was afraid of bed sores Appetite was lost, coughed and expectorated a great deal, in fact, the case was despaired of Is now improving continually, is up and about and able to go up and down stairs and feels in every way in better health, weighs one pound more than in his best health

John Broderick, age 24, pulmonary tuberculosis in the third stage, duration over one year Brother died of quick consumption, was very weak, emaciated, had a cavity in left infra-clavicular region, coughed continuously for two months previous to treatment Weight December 1, 105 5 pounds Weight January 26, 113 pounds, a gain of 7 5 pounds Vital capacity 100 cubic inches before treatment Vital capacity since, varied between 110 and 130 up to Jan 26, 1895 This is one of the two cases that had an abscess in the back He was almost bed fast when treatment began Coughed a great deal night and day Was very weak, thing was very short and labored Now coughs very No more pains or distress Is up and about and on il duty

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[3] While preparations for treatment began the last days of November, regular injections began on or the day before December 1.

[3] Diagnosis of city physicians

enry Riley, age 34 Weight beginning of treatment 115 ıds Weight January 26 121 pounds, a gain of 9 pounds vo months Had pulmonary consumption in the second e, duration one and one half years Tuberculosis in family Had night sweats, diarrhea, marked dullness in right supra- and infra clavicular region, appetite poor, ghed frequently at night, expectoration considerable was a very sick man, indeed, but is now improving rap , and is in fact on detail duty

mes McCafferty, age 48, pulmonary consumption, second e, duration of cough several years, serious illness in five weeks, spit blood five weeks previous to treat- it, frequent diarrhea, dullness left supra- and infra- icular region Weight at beginning of treatment Dec 06 5 pounds Weight January 26, 120 5 pounds a gain of pounds in eight weeks Vital capacity at the beginning cubic inches of air Vital capacity January 25, 160 cubic nes, a gain of 30 inches Was a very sick man, unable to anything Is now on night duty at City Hospital, works n 11 P M to 6 A M, a very trying duty for a tuberculous ient

hos Morrison, age 42, pulmonary tuberculosis, second ge, duration over three years, had hemorrhages in 1801 ity in left apex Pronounced dullness in right infra clav- lar region, tubular breathing over same region, appetite r, cough and expectoration pronounced Has been in City Hospital for a couple of years Weight at beginning treatment, December 1, 156 pounds Weight January 26, pounds, a gain of 2 pounds Vital capacity at the ginning of treatment 160 cubic inches Vital capacity uary 26, 170 cubic inches, a gain of 10 inches This case es not improve as rapidly as others in worse condition

ohn Hopkins, age 48, pulmonary tuberculosis advanced st stage, two years' duration Mother died of consump n Digestion bad, cough was getting continually worse, d lost much flesh Weight Dec 1, at beginning of treat- nt 137 5 pounds Weight January 26, 144 pounds, a gain 6 5 pounds in about eight weeks Vital capacity at the ginning of treatment 250 cubic inches Vital capacity creased between then and now (January 26) to 260 and even) inches

Conrad Hogan age 32, pulmonary tuberculosis in second ge, family history good, had slight hemorrhages night eats, getting weaker daily, right apex involved and dull, ughed considerably Weight at the beginning of treat- ent December 1, 135 pounds, weight January 26, 142 ounds, a gain of 7 pounds in those eight weeks Vital pacity at the beginning of treatment December 1, 180 bic inches Vital capacity January 26, 200 cubic inches increase of 20 inches

Henry Willer, age 46 pulmonary consumption, third age no family history of consumption, both apices in lved, had had hemorrhages, had been ill five years His sease had begun with pneumonia Vital capacity at ginning of treatment 140 cubic inches Vital capacity day is the same Weight December, 133 pounds Weight nuary 26, 132 5 pounds, loss of a half pound This patient as not increased in weight but has declined less than pre- ously and is stronger and better generally Temperature normal and he expresses himself as gaining It is not a vorable case

Nils Johnson, age 34, pulmonary tuberculosis third stage uration twenty months, dullness on percussion of the pices, tubular breathing, hemorrhage a year ago, expec- ration not very pronounced Weight December 1, at eginning of treatment was not reported January 1, 156 ounds, January 24, 158 pounds, a gain of 2 pounds in wenty four days This patient is not a favorable case, has ariable temperature and chills occasionally It seems to e a mixed infection

Nicholas Schappo, age 56, pulmonary tuberculosis, second tage, two years' duration, night sweats left apex dull, oughed considerably at night, and expectorated very much, acilli of tuberculosis in great numbers Weight December , beginning of treatment 108 pounds Weight January 26, 07 pounds, loss of 1 pound Vital capacity December 1, 40 cubic inches January 26, 150 cubic inches, a gain of 10 nches This man is ageing and broken down generally and s not a favorable case although he more than holds his own He has now stopped declining and I may say his lung capacity is better

Conrad Opperman, age 47, pulmonary tuberculosis in the third stage, duration six months Mother died of consumption, has had night sweats, was exceedingly emaciated and very weak Cavity in the right infra clavicular region Has diabetes (diagnosis of Dr Ehrlich), coughed in the morning considerably, bacilli very numerous Weight at the beginning of treatment December 1, seventy nine pounds Weight January 26, eighty two pounds, a gain of three pounds against continual loss before Vital capacity at beginning of treatment fifty cubic inches Has varied since then between fifty and seventy This man was a stretcher case, brought to the hospital helpless Could not get up the steps for a long time Even after some treatment he was very thin Is now improved coughs little and is in better health in spite of his diabetes or glycosuric condition Bacilli much decreased in quantity

Fritz Arnold, age 59, pulmonary tuberculosis second stage, duration two years Tuberculosis in the family, coughed persistently expectoration profuse, bacilli numerous, appetite bad Weight at the beginning of treatment December 1, 122 pounds Weight January 26 127 pounds a gain of 5 pounds in eight weeks Lung capacity December 1, seventy cubic inches Vital capacity since has varied between 80 and 110 This is a broken down constitution generally, but has improved in spite of it Bacilli now scarce

William Murray, age 41, pulmonary tuberculosis second stage, duration one year family history good is a drinking man, consolidation right apex, night sweats, blood in sputum, appetite poor, coughed a great deal, bacilli very numerous, expectoration profuse Weight Dec 1, 1891 132 pounds Weight January 25, 134 5 pounds, a gain of 2 5 pounds Vital capacity at beginning of treatment seventy cubic inches Vital capacity January 26, 120 cubic inches, an increase of 50 cubic inches

Thos Bennett, age 61, pulmonary tuberculosis, second stage, been coughing four months, very emaciated, affected with long standing gastritis, right supra-clavicular region involved, dull Lung emphysematous appetite poor, coughing considerable, sputum tinged with blood sometimes and contained bacilli of tuberculosis Weight December 1, at beginning of treatment, 125 pounds Weight January 26 130 pounds, a gain of 5 pounds Vital capacity keeps 110 cubic inches

Martin Kemp, age unrecorded, tuberculosis first stage, bacilli numerous Weight at beginning of treatment December 1, 131 5 pounds Weight when discharged January 10, 151, making an increase of 19 5 pounds Lung capacity increased from 170 at the beginning to 190 when discharged This case was treated a little over a month and a half He had been reduced greatly in strength and flesh, was unable to work and had to leave his family for the City Hospital Has now returned to work Have had no chance to examine his sputum since discharge, when no expectoration existed, to investigate the microbic question

I purposely omit saying anything about the physical symptoms after treatment to date This is a record to show general improvement to date particularly to demonstrate that the great prostrating debility of consumptives (the very ground of tuberculosis as some term it) is the first thing to yield seemingly to the effects of serum

The following are cases treated and reported by Dr Cale

Dear Doctor Paquin —I inclose, herewith, reports of the cases of tuberculosis which have been under my care and treated with your immunized blood serum

Case 1—Charles J M, aged 23 years, family history good, was in perfect health until seven months ago, since that time has had a cough, fever in afternoon and subnormal temperature in morning, loss of appetite, loss of weight, night sweats, etc Small cavity in apex of left lung, large amount of expectoration, bacilli found in sputum in large numbers Date of first treatment Dec 22, 1894 The case has progressed nicely Cough much less, expectoration less, no night sweats and gain in weight of three pounds in two weeks During the last six days has gained two pounds, sleeps well, in fact all the symptoms have improved

Case 2—W A Buckley, nurse at the poor house age 33, family history good, attack dates back two years, cough, expectoration, pain in left side at base of lung, where a small dull area was found, loss of appetite and weight, had had night sweats for two months preceding December, 1894 Bacilli in sputum Treatment during December and two weeks in January No cough or any bad symptoms since

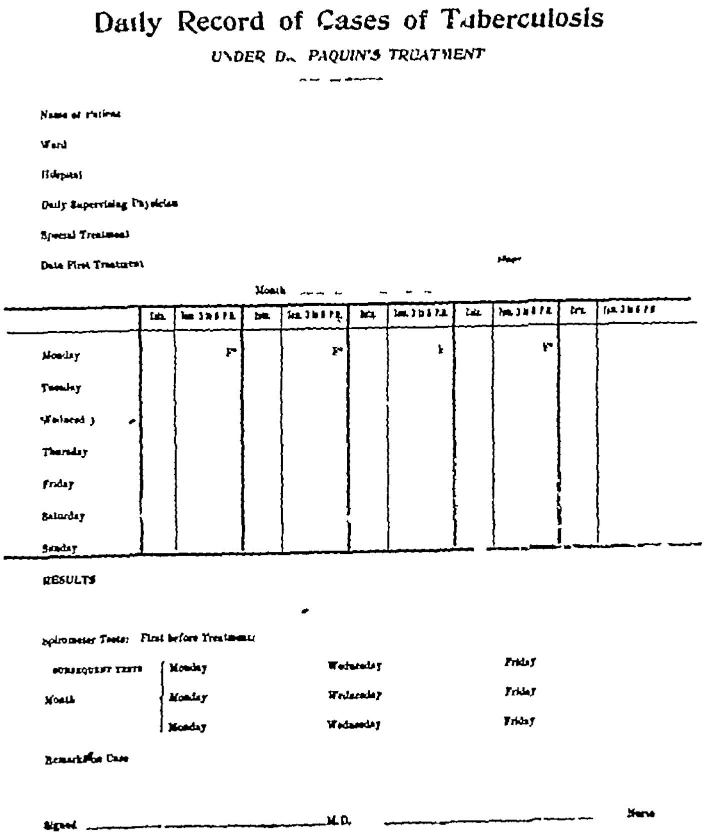
January 1 Dullness disappeared and gained six pounds in weight No night sweats, temperature normal, no more expectoration

Case 3—George Roth, age 63, tuberculosis in third stage, family history good, temperature ranged from 96 5 to 103 5, cough frequent, expectoration, night sweats, no appetite and loss of weight, bacilli present Treatment seven weeks No cough Gain three pounds

I have treated irregularly, during a few weeks, two or three more cases at the poor-house, but they are insane and the treatment was not done satisfactorily However, there was some improvement even in some of them

GEORGE W CALE, M D

All these records were kept accurately by the physician and nurse in charge of the cases at the City Hospital and by Dr George W Cale, the physician who was put in charge of the poor-house cases, whose valuable assistance I secured as soon as I had gained the idea that I was in possession of blood serum truly useful for the purpose intended Dr Cale was selected because of his qualifications in microscopy and surgery, accomplishments required in a man whose help was needed to verify the diagnosis of each case microscopically, and to give an opinion on surgical cases of tuberculosis, which I wished to secure for experiment The sputum of every case treated, contained the bacilli of tuberculosis Dr Cale mounted specimens from each, and he and I examined every one of them They have been labeled and kept for future reference At the City Hospital, after the inauguration of the treatment, the immediate supervision of the injections and attendance was by Dr Ehrlich, who did his duty carefully and conscientiously Mrs Johnson, a very competent woman, was in charge as nurse



Daily Record of Cases of Tuberculosis

UNDER DR PAQUIN'S TREATMENT

Name of Patient
Ward
Hospital
Daily Supervising Physician
Special Treatment
Date First Treatment

Month

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday

RESULTS

Spirometer Tests: First before Treatment

SUBSEQUENT TESTS Monday Wednesday Friday
Month Monday Wednesday Friday
Monday Wednesday Friday

Remarks on Case

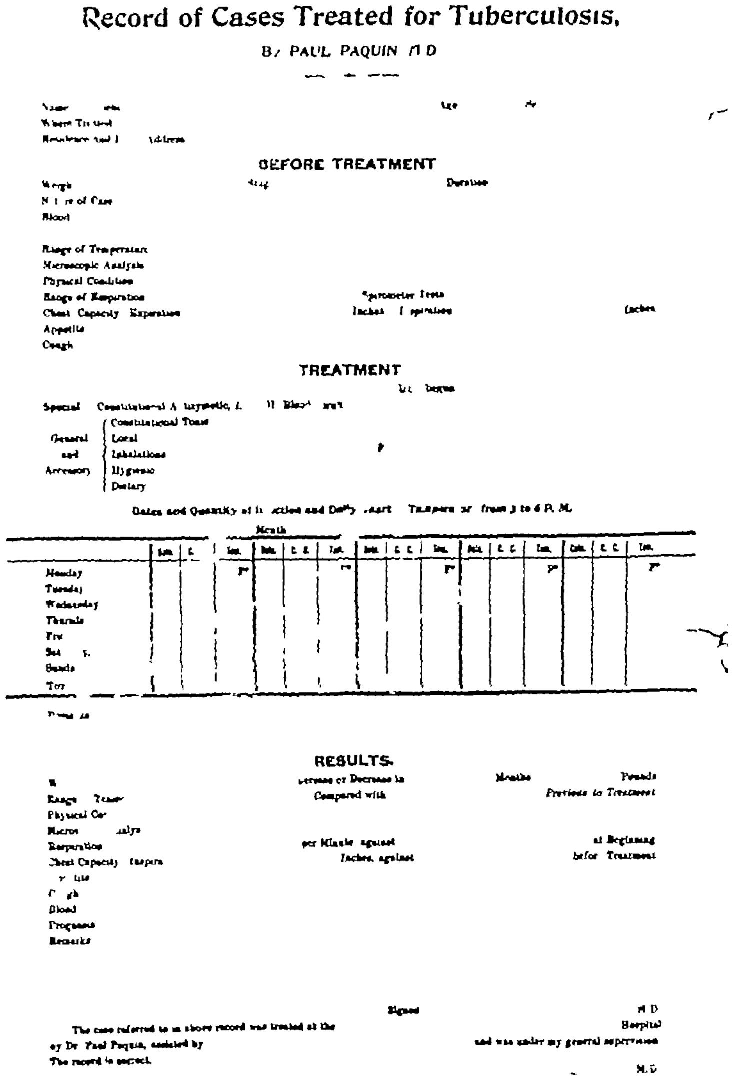
Signed ____________ M.D. ____________ Nurse

Blanks worded as the sample shown were used, blank A being for the daily reports, and blank B for the history, nature, etc, of each case, and the compilation of the daily records at the end of each month And so, for each case every precaution was taken that seemed necessary to insure reliable records and to convince the medical profession of the truth of the facts reported

THE PREPARATION OF THE SERUM AND ITS APPLICATION

By laboratory processes I gradually rendered horses more strongly refractory to the action of the germ than they are naturally Immunization was carried on with the assistance of a deputy veterinarian, Dr Rouif, of this city, who had previously kept the horses under surveillance and had examined and tested them carefully with me, and independently, until we had fully convinced ourselves of their healthfulness

Having immunized horses and tested the serum by experimental processes, and noted its effects on animals, and having injected it in myself several times, at intervals and at increasing doses to determine its reaction, it became necessary to procure a number of tuberculous patients to test its value in human consumption With this object in view, I secured from Dr Homan, Health Commissioner, the permission to select a few cases at the poor-house for treatment, and also secured from Dr Marks, Superintendent of the City Hospital, leave to try the remedy in this institution Both of these officers have been very kind They turned over to me and my colleagues all the cases we wanted and expressed their good will in many ways I owe them my sincere thanks for their generous assistance and am under obligations to them, as also to the physicians of the poor-house



Record of Cases Treated for Tuberculosis.

BY PAUL PAQUIN M D

Name Age
Where Treated
Residence and Address

BEFORE TREATMENT

Weight Duration
Nature of Case
Blood
Range of Temperature
Microscopic Analysis
Physical Condition
Range of Respiration Spirometer Tests
Chest Capacity Expiration Inches Inspiration Inches
Appetite
Cough

TREATMENT

Special Constitutional
General and Accessory: Constitutional Tonic, Local, Inhalations, Hygienic, Dietary

Dates and Quantity of Injection and Daily Temperature from 3 to 6 P. M.

Month

Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Tot

RESULTS.

Increase or Decrease in Months Pounds
Range Temp. Compared with Previous to Treatment
Physical Condition
Microscopic Analysis
Respiration per Minute against at Beginning
Chest Capacity Inspiration Inches, against before Treatment
Appetite
Cough
Blood
Prognosis
Remarks

Signed M D

The case referred to in above record was treated at the Hospital
by Dr Paul Paquin, assisted by and was under my general supervision
The record is correct.
M.D

The treatment began with injections of 10 drops hypodermically in the back between the shoulder blades In a few days we increased to 20 drops.

n to 30, 10 and 60 Some were given as many as rops once a day for awhile To a few in private ctice, I have injected as much as 150 drops at one ing every day for several days No reaction atever followed these injections and the pain is no ater than during the usual injection of a morphin ation There resulted no accidents whatever from r fifteen hundred injections in the various patients, a whole, except at the City Hospital where two ign abscesses were produced They were without ubt due to accidental infection by the syringe, probly the leather ends of the piston of the syringe ed at the time, or the needle Careful disinfection the syringe will always prevent this occurrence e serum is, in fact, innocuous, absolutely so, if well epared[1]

PROSPECTS OF SERO THERAPY

The future of the serum therapy in several infecous diseases seems assured beyond peradventure e may have been too enthusiastic and may have xpected more than we can now obtain, perhaps, and ossibly the great enthusiasts may be painfully disppointed in their hopes for immediate or remote onders from the sero therapy in diphtheria, tetanus, tc, but the fact will always remain that this system s unquestionably rational and that eventually, all ndicate it must yield success in therapeutics where all else must fail, for it is the one rational, truly physiologic treatment, the only treatment in my humble judgment from which can be derived positive beneficial results in the cure of infections It is nature's own remedy Man with the serum is using nature's own weapon of defense, he has found out how he may add power to the natural resources of the organization in the fight for human existence This system of treatment is not a spontaneous eruption in therapeutics It is not the explosion of over-zealous laboratory delvers with more enthusiasm than experience, it is the result of years of research in all the laboratories and the chief clinics of the civilized nations, particularly France and Germany And it is not only yesterday that it appeared in practice It was several years ago that Kitasato applied his antitoxin experimentally against tetanus Diphtheria has been treated successfully a year or more Syphilis is now, it is stated, treated experimentally with it, and lastly your humble servant begs to submit to your indulgent criticism the result of his meager labors, conducted under extreme difficulties, and without State or any outside financial aid The future of sero therapy in tuberculosis is, in my mind, very bright and very promising The first, the second and the third stages of consumption have been benefited under unfavorable circumstances by even slightly immunized serum Consequently, it is only fair to reason that with more strongly immunized serum, such as I have now ready to use, (I have only a limited quantity) much better and quicker results can be obtained, particularly if proper hygienic and dietetic conditions are obtained Theoretically it would seem that, if by the use of this serum constitutionally, the tuberculous processes may be arrested in a given case, injections directly in the pulmonary cavities where these exist, or the excision of a rib or two and the use of tubercle antitoxin directly into the wound, would prove practicable and useful to save life It would seem, too, that such cases as hip joint disease, which, according to statistics, is more successfully treated by the expectant therapy than active operation, could be safely operated after the arrest of the tuberculous process for, as Koenig has pointed out, it is the operation that disseminates the bacilli in such cases, so many of which terminate fatally after the usual surgical interference and the usual after treatment And so in all surgical cases of tuberculosis, whether it invades the bones, the joints, the ovaries, the skin, the tendons or other organs, or several of them, if the serum will, by some means, stay the microbes, as I have every reason to believe it will, there is ground for congratulation on its introduction in therapeutics

Besides the use in the treatment of tuberculosis, we have a pomising means of protection of those exposed, by the practice of periodical injections of antitoxic serum, which may render the susceptible immune, for awhile at least As a prophylactic the antitoxic serum should prove very useful in the preservation of families tainted by inheritance, or exposed to the germs from their birth

In closing, allow me to summarize the opinions arrived at after my few years of investigation and observations, and the recent incomplete practical tests of my colleagues and myself

1 Sero therapy in tuberculosis has proved, so far, efficacious

2 Blood serum of horses seems naturally antagonistic to the germs of tuberculosis, but can not in its natural state serve in treatment with much good, as it is too slow and it takes enormous quantities of it too, to produce useful results

3 Horse blood serum may be rendered more strongly antagonistic to the tubercle germ by the proper treatment of the animals by a proper technique

4 A horse treated properly three months may yield serum with immunizing power that will probably prove sufficient to arrest consumption in the first stages in three or four months, and sometimes less, and in the second stage in four to six months or a year

5 Discrimination should be made in the selection of cases, and judgment exercised to exclude from the favorable class all those seriously complicated bacteriologically, certain cases complicated otherwise pathologically, and other patients which practice alone will suggest

6 Inasmuch as hospitals for consumptives are needed any way, the success has been sufficient already to warrant the hope that in the near future such institutions shall be built on modern principles of hygiene, for the exclusive treatment of tuberculosis Sero-therapy, with the adjunct treatments promises better success than ever obtained before I do not designate this serum as a *cure* or a *specific*, but a valuable new remedy

TECHNIQUE

As to the technical features of the preparation of the anti-tubercle serum, I have little to say at present The profession realizes that success with the serum therapy depends on accurate and delicate laboratory and experimental manipulations which few are fully equipped to undertake The preparation of the toxins, the measurement of their potency, the dosage for the realization of various degrees of immunity, and, finally, the inoculations of immune animals and the subsequent tests of the therapeutic value of the serum extracted, are all questions of great moment, and which necessarily involve special training Commercialism might, at any moment, by some failure or accident throw discredit on the new treatment, were I to explain fully before advancing my researches to a point where a larger number of improved cases and greater benefits, can be shown the details of procedure in the production of the agent As yet only a small quantity of serum is on hand —not enough to offer to the profession, having under treatment some thirty cases whom I have promised and wish to inject for some time to come The production of the serum is costly, and above all it takes months to get the best material I have reason to believe, however, that it will be possible to shorten the time that has been found necessary to strongly immunize the horses now in use

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[1] Since reading this paper we had a harmless rash in a few cases

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THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH, WITH THE BACTERIOLOGY OF THE STOMACH CONTENTS

BY FENTON B TURCK, M.D

PROFESSOR OF DISEASES OF THE STOMACH AND INTESTINES POST GRADUATE MEDICAL SCHOOL, ATTENDING PHYSICIAN TO THE COOK COUNTY HOSPITAL
CHICAGO

(*Continued from page 319*)

After the study of sixteen cases Rosenheim (*Berl Klin Woch*, Dec 24, 1888) concluded that the chemic insufficiency of the stomach in carcinoma ventriculi is not due to the cancer itself, but to the attending atrophy He divided the pathologic changes into three stages inflammatory, interstitial and atrophic, adding that these stages may be present at the same time, and Ewald (*Berl Klin Woch*, Dec 3, 1888) holds that the disappearance of HCl is not due to carcinoma directly, but is merely a disturbance of the functions of the secretory glands

The post-mortem changes often veil the pathologic changes, unless well marked and permanent lesions occur It is best, if possible, to secure specimens during an operation for carcinoma of the stomach as far remote from the tumor as possible In three operations I secured several sections—one for carcinoma planum (anterior wall) where a large area was removed, leaving a border of tissue not infiltrated by cells from the carcinoma, the other two were carcinoma of the pylorus The sections were cut with a Valentine knife in the fresh state and placed on a slide, 50 per cent solution of glycerin with a little oil of cloves prevents the change

A solution after stain in 50 per cent glycerin is used, for staining, and "irrigated" through according to the old method of Beale (For making permanent mounts Price's pure glycerin is carried under the cover glass and ringed with cement) There appears the pathologic changes of inflammation No distinction between parietal cells and chief cells, cells loosened from their membrane, karykinesis were illustrated, nucleus crowded to one side, gland cells swollen, closing the lumen, nucleus forced to one side, cells of the mouth and neck crowded together as in proliferation, and lying within the lumen, at other points cystic degeneration, mucoid metamorphosis of pathogenic cells, as shown by Ewald and Boas, leucocytes fill up about the neck and through to the surface of the gland, other points show marked interstitial changes, multiplication of round cells, vessels engorged flush up to the surface of the mucous membrane, where a rich anastomosis occurs at the mouth and neck of glands If it is not alone the product formed in the growth of carcinoma of the stomach that causes this inflammatory and rapid destructive process through the infection from growing pathologic and so called non-pathologic microorganisms colonizing upon the surface of the mucous membrane offers a possible explanation of these changes Within the lumen of the stomach all forms of germs find their way

The master work of Miller ("Microorganisms of the Human Mouth," 1890,) has proved that the mouth may become an ideal incubator for at least twenty-five varieties The nose and pharynx may become an excellent bed for colonization upon the walls Food and water are by no means aseptic—if we prepare the stomach walls so that colonization may also exist, we have a process set up in proportion to the character of the colonies found—the culture bed and conditions present In the healthy state the stomach does not seem to encourage colonization in the bed of mucus upon its walls, although germs find their way into its lumen This will be brought out in another work in relation to gastritis The predisposing cause seems to be the growing carcinoma—lessening resistance and furnishing a soil,—the inflammatory process, the result of the toxins of the colonizing microorganisms Well-known pathologic germs produce their special toxins and even the lactic acid bacillus, as shown by Wurtz and Lindet (*La Semaine Med* Paris, Sept 9, 1892) produce in animals marked symptoms of diarrhea, distension of the abdomen and extremely rapid emaciation They learned that cultures in bouillon are very active—toxin is formed having the same effect as the culture itself

Through the kindness of Dr Ryan, Louis S, age 40, Italian, was referred to my clinic November 27, complaining of "pain in his stomach and back" No specific history Family history negative Experienced no difficulty until within nine months, when there appeared a distress after eating Appetite remained good, insomnia at times and dyspnea at night No vomiting Alternating constipation and diarrhea

Examination Skin dry, some evidence of emaciation, mouth, gums inflamed at borders, tongue, light yellowish coat, nose and throat showed no marked lesions, chest organs intact, abdomen, muscles well developed, liver and splenic area normal, stomach, percussion shows slight distension, half moon space of Traube slightly increased, prevailing sound in stomach demonstrated the great curvature one and one half inches above the umbilicus, no palpable tumor, colon dilated, tympanitis controlled with water and air gave the same results, rectum negative, genito-urinary organs negative

Analysis of stomach contents two hours after ordinary meal HCl+, total acidity, 40, Uffelman's +, blood count 4,800,000 November 27, hemoglobin, 70, fasting stomach twelve hours after meal, reaction neutral No remnants of previous meal, no stagnation

Bacteriologic Six slides stained for microorganisms, after removing mucus from them and mucous membrane with gyromele, four fresh slides unstained A fine network of long rods appearing like mycelia but more angular Short rods, colonies in groups attached, end to end and in pairs, streptococci in twisted chains, groups of micrococci, a few yeast germs but no socius ventriculi appeared in the field

Bacteriologic cultures Stroke culture on sterilized mucous membrane of the stomach of a pig, first stroke line colonies run together, second stroke more separated, especially at side of furrow of the line, pink colonies, grayish colonies spreading, yellow colonies, brown and a few black colonies raised, as many as ten or twelve different colonies present On separating out into tubes the short rods seemed more curved and the threads appeared changed The long slender rods that formed a thick network and a luxuriant growth on the mucous membrane died out in the tubes The pyogenic germs appeared, as well as bacilli coli communi Five colonies were lactic acid forming bacilli

Tube cultures taken direct from the stomach wall Tube No 1 left in stomach juice, No 2, milk (sterilized), No 3, bouillon made from stomach of pigs, No 4 same as No 3 with starch added, No 5 plain bouillon, No 6, same as No 5, starch added All placed in incubator at 38 C for twenty hours

Reaction All acid reaction except bouillon culture No 5 Nos 2 and 4 showed lactic acid No 4 was especially marked The fluid was filtered and extracted with ether evaporated which gave a fair iodoform emulsion No quantitative estimation made December 6, ordered meal soup according to Boas method December 7, withdrew and analyzed Lactic acid, 85 per cent

December 15, entered hospital of the Post Graduate Medical School, oatmeal soup of Boas at night December 16, withdrew stomach contents Analyzed by Dr Wisner showed lactic acid, 75 per cent Operation ordered, stomach washed out and December 17 I performed laparotomy, assisted by Dr Beck, and found a scirrhus carcinoma, two nodules at pylorus, one anterior and one posterior tumor, extending from the end of the lesser curvature Gastro enterostomy with Murphy button Patient was attacked with violent hiccough and vomiting, stomach cleaned and fed per rectum, temperature remained *normal* December 24 patient died Post mortem refused

July 10 1894 Mr F K, age 53, German was referred to my office as a stomach case Complained of pain over xiphoid appendix through to the back Began to vomit about a year before, had to live on liquid food, dysphagia Examination Emaciated, could not pass stomach tube, attempted to pass the revolving sponge but met resistance at the cardiac opening, by using smaller sponges tried to explore the stricture The cable and spiral within the sponge being more flexible than the ordinary sound there was less fear of puncture Found a diverticulum containing remnants of undigested food, sputa negative, no albumen or sugar in urine but indican increased Diagnosis Carcinoma of the cardiac

On July 23 gastrostomy was performed by Dr Newman and myself Introduced the gyromele through the stomach opening dilated and passed a rubber tube through the stricture to the mouth Examination of stomach contents, reaction neutral July 24, made slides but no cultures were carried out Slides showed many varieties of long and short rods, especially spirilla After a gruel injection a slight Uffelman reaction, but not marked July 28 patient died No post mortem allowed

August 22, 1894, Mrs S G S, widow, aged 65, referred, complaining of distress and burning sensation in stomach after eating I was told that if carcinoma was thought to be present an operation would be allowed It is *often more* difficult to exclude than include The history symptoms and general appearance favored carcinoma Within one year loss of appetite and weight, progressive anemia, morning headache, constipation, belching after eating Physical examination Hair dry and brittle skin dry, panniculus adiposus absent, color, pale, ashy hue Teeth in good repair, tongue silver gray coat, depression of teeth Nose and throat atrophic, *rhino-pharyngitis*, slight discharge from the vault Lungs negative Heart, faint mitral murmur Liver palpable below costal arch Abdomen retracted Stomach gastroptosis, transverse colon upper border below umbilical line, prolapse of right kidney, second degree

August 23, withdrew contents after Ewald's test meal Litmus +, no HCl, Uffelman's +, peptone weak, urine contained no albumen, blood or sugar 4,560,000, hemoglobin 55 August 28, four hours after meal stomach was empty weak acid reaction August 30, after Boas' test meal, Uffelman's reaction very weak No iodoform showing practically no lactic acid September 1, bacteriologic Removal by the revolving sponge of mucus thick and tenacious Slides show the mucus contains cells of the glands, columnar, round cells, leucocytes, also flat cells, a large number of colonies of rods and micrococci Tube cultures showed many gas forming germs to be present

A diagnosis made of gastritis chronica, with beginning atrophy and the complications named Patient put under a vigorous treatment Stomach walls cleaned with liquid soap, using the gyromele, oil of cloves and cinnamon applied HCl exhibited in large repeated doses, as recommended by Ewald A selected diet ordered, baths and massage

September 6, recorded that the headache disappeared, the distress in stomach lessened, with but little belching of gas September 18 recorded appetite much improved October 29, disappearance of all symptoms November 24, patient discharged, but requested to report in one month

Examination of stomach contents after test meal showed HCl + weak, total acidity 35, Uffelman's, general condition improves, gain in weight and strength, *no return of symptoms* December, patient considers herself cured, which can not be No evidences of carcinoma

(To be continued)

THE MEDICAL CORPS OF THE U S NAVY

BY FREDERICK HORNER, M D

UNITED STATES NAVY

In connection with the early history of the American Navy as developed into a distinct arm of the national defense, it is interesting to recall the fact that its embryonic origin was first developed in Virginia under royal authority As early as 1775 the convention of the colonists of Virginia had directed the Committee of Safety to procure armed vessels for the defense of the colony, and the control and management were intrusted to this committee Accordingly in May, 1776, the House of Burgesses of Virginia foreseeing the coming struggle with the mother country for the independence of the colonies, and recognizing that the vessels of the merchant marine of James River and border harbors of Chesapeake Bay constituted the elements, if armed and equipped, of a squadron already manned by sturdy sailors who had knowledge of the sea, and commanded by officers of the pluck and experience which have ever characterized the captains of the Marine Service, appointed a Board of Naval Commissioners consisting of Thomas Whiting, John Hutchins, Champion Travis, Thomas Newton and George Webb, who met first in Williamsburg, then the capital of Virginia These men adopted a plan for the creation of a naval force of seventy vessels which had been employed for purposes of commerce, having been constructed at the Chickahominy Navy Yard, near Norfolk, Va Among the naval surgeons commissioned for this service during the Revolution were Dr Balfour, an eminent physician of Norfolk, Va, Kemp, Lyon, McClurg, Brockenborough, Christie, Reynolds, Sharpless, Pell and others It was after this period that the seamen and naval forces of the New England States were organized for the national defense At this period the merchant marine were not usually provided with a surgeon, and physicians who were competent to practice were obliged to go abroad to the universities of Edinburgh or Cambridge to obtain a diploma In 1764 when the first medical college in America was founded in Philadelphia, now the University of Pennsylvania, and afterwards in 1825 when the University of Virginia had established a medical department, in 1827 the supply of surgeons for the naval service was equal to the requirement, though it may be added in the early days of the colonial period, "physick was not regarded as a fit profession for a gentleman of Southern birth, who, haply was possessed of ample fortune, and had no need to practice a profession"

Among the surgeons commissioned first were W A W Spottswood, Cornick, Harris, Chase, G R B Horner, Brownlee, Whelan Maxwell, Temstell, Squibb, Elisha Kane and others Surgeon-General

Harris, while chief of the bureau of medicine and surgery contributed to systematize the work committed to the naval medical officers and proved equal to the arduous duties of his office, and with his successor, Surgeon William Whelan, elevated the standard, intellectually, and scientifically, for the admission and promotion of the junior medical officers of the Navy and also aided in promoting the success of the repeated explorations of Passed Assistant Surgeon Elisha K Kane, in vessels fitted out by Mr Grinnell and the Navy Department in command of Dr Kane, and also in expeditions to Paraguay and to Japan in 1851 The war between the United States and Mexico occurred during Dr Harris's term of office and the war of the Rebellion in this country during that of Surgeon-General Whelan's term The surgeons in active service during this period displayed uncommon ability and zeal in the performance of their duties, and their printed reports to the office of the Surgeon General furnish valuable data connected with the various branches of practical medicine and surgery A decided impetus for such publications was given to the Naval Medical Corps by the stirring events which then occurred Under the direction of Surgeon-General J C Palmer and Medical Inspector A L Gihon, a neat volume of medical essays, compiled from reports to the Bureau, were published by order of the Navy Department Surgeon R C Dean, Medical Inspector, U S N, made a valuable report on the naval medical schools of France and England, showing the liberal policy of the governments of those lands toward their naval medical officers For example, in Great Britain there is established a naval medical school for the Army and Navy at the Royal Victoria Hospital at Netley Here a per diem of 5s is allowed the officers, with excellent quarters and subsistence, and according to a late Navy List of the British Admiralty, a liberal pension is allowed not only the widows but the children also, of the medical officers Dr J D Gatewood, Surgeon, U S N, contributed a valuable report on Hospital Statistics of the Naval Hospitals of Europe, showing that the average mortality was as low as 10 per cent for the Royal Naval Hospital at Great Yarmouth, England This report was read before the Medical Congress of the Columbian Exposition at Chicago Among the earliest authors of the Naval Medical Corps who have, from time to time made valuable contributions to current periodical and book literature are Surgeons Ruschenberger, G R B Horner, Foltz, Wilson, Wales, Brown, Wise and others Among such publications may be enumerated "Endemic Influence of Evil Government and Medical Statistics of the Island of Minorca," by Surgeon J M Foltz, "Medical Topography of Brazil," "Medical Statistics during a Cruise to the Mediterranean" and "Naval Surgery," by Surgeon G R B Horner, "Arctic Explorations in the years 1853–54–55," by Elisha Kent Kane, M D, U S N, "Naval Hygiene," by Surgeon Wilson, "Mechanical Surgery,' by Surgeon P S Wales Such contributions betoken a commendable zeal and industry on the part of the authors, furnish evidence of their talents and erudition, and present examples worthy of imitation

The second epoch in the history of the American Navy was marked by the occurrence of the Civil War, when a large number of naval surgeons of the Southern States either resigned from the service or refused to take the required oath of loyalty to the Federal Union and were dropped from the registered list when the reorganization of the Navy was effected in 1861 A small number were true to the old Ship of State, ready to be scoffed at by erring ones, and, perhaps, because of the spirit of an ancestry that had signed the Articles of Confederation, the Declaration of Independence and the Constitution of the United States Among others of this number were Surgeon G R B Horner and the writer, and of those who also thought they were right were Surgeon Dinwiddie Phillips, of the ironclad *Merrimac* and Surgeon Galt, of the *Alabama*

The decade which succeeded the return of peace to the country was marked by an accession to the number of naval medical appointees from the Southern States, and during the intervening period the strength and efficiency of the Corps has been greatly developed The number of 170, the maximum allowed by Act of Congress is meager indeed in comparison with the 502 surgeons of the British Navy, with its Director General a Baronet of the realm, and a corps of inspector-generals, first class, staff officers, second, surgeons and fourth, medical inspector-generals of the royal hospitals at home stations and abroad In this connection it may be remarked, *en passant*, that American authorities do not show the favor to our Naval Medical Corps, that they do to line officers, who as cadets and ensigns whose education and maintenance at the Naval Academy, Annapolis, cost the taxpayers of the country $500 a year for each cadet The surgical staff has no such bonus accorded them at any period of their service by our Government

Finally, it may be asserted with truth, that the Medical Corps of the U S Navy has ever maintained a high professional status, and an *esprit du corps* challenging criticism Through the efforts of Surgeon-General Tryon, the U S Naval Laboratory and Department of Instruction has been founded in Washington City The courses in bacteriology and analytical chemistry have proved valuable and instructive to the class of Assistant Surgeons, candidates for examination and promotion to a higher rank The U S Naval Museum, now removed to the Naval Observatory Buildings, has already proved useful in developing all that is of value in the sphere of mechanical inventive art, as well as forming the nucleus of a fine library Surgeon-General P S Wales and J Mills Browne during their terms of office contributed largely toward the success of the Museum and founded in connection with it a Naval Medical Society, before which were read and discussed interesting medical and surgical papers that were published under the supervision of Surgeons Van Reypen and Beyer A few retired medical officers of the Navy were Fellows of this society, and were glad to exchange greetings with old friends, and enjoy the privilege of taking part in the proceedings The Naval Medical Staff has able representative delegates appointed to the annual meetings of the AMERICAN MEDICAL ASSOCIATION, to the Association of the Military Surgeons of the United States, to the various international medical congresses of the world, and the American Public Health Association

The admirable report of Surgeon-General Tryon urges the necessity of an organized Hospital Corps, well instructed for all duties on board modern vessels of war, and concludes with the statement that thirty permits were granted to applicants, to be examined by a late Board of Naval Medical Examiners, of the thirty, ten failed to present themselves, five were rejected physically, twelve professionally and three passed the examinations The Naval Medical Examiners have, in fact, no option than that of exclusion of many talented and learned men from the Naval Medical Corps, because the legal number of 170 surgeons, passed assistant, and assistant surgeons, as already stated, is the number allowed by law, though the Navy of the United States represents a nationality of 65,000,000 people

The comment may be pardoned that concerning the bill for the reorganization of the *personnel* of the Navy, the legislators of Congress, themselves dependent at times more or less upon physicians and surgeons for relief, surely may be trusted to do right toward the interests of the Naval Medical Corps

Congress may recall that Passed Assistant Surgeon E K Kane proved to be not only equal during his medical service to professional duty, but developed into one of the most renowned captains of the nineteenth century, the discoverer of a terra incognita, Washington Land and an open Polar Sea in higher latitudes than ever before explored, to attain which even the courage and sagacity of a Columbus would hardly have undertaken it, and in the accomplishment of which he solved the mystery—so long desired in vain—of the fate of his illustrious co explorer, the lamented Sir John Franklin

Congress knows, also, that Surgeon James M Ambler proved his heroic mold by remaining with the brave Commander DeLong, choosing death by cold and starvation with him and their comrades, than to accept the offer to escape and seek help

Congress knows how Dr John B Hamilton, when Chief of the U S Marine-Hospital Service, with his efficient co-workers rescued hundreds of the fever-stricken citizens of the cities of the Southern States in the midst of the "pestilence that walketh in darkness and the destruction that wasteth at noonday," by the establishment of refuge camps and the enforcement of prompt, incisive and strict sanitary and quarantine regulations, and with a kindred spirit, Dr G B Thornton, when the Mound City of the West was decimated by a like scourge, with soldier-like courage and vested municipal authority had destroyed streets of houses, and chattels teeming with the germs of a death-dealing plague And thus, these self sacrificing physicians with others, who bear the mantle of the Divine Physician and stand between the living and the dead, fearlessly sought to save life, yea, with equal courage with Surgeon Edward Shippen were faithful to duty, as he was when he conveyed an order—Perry-like, of Lake Erie memory—in the harbor of Charleston in the face of the raking fire from the enemy, from one ship to another

Indeed, it is not presumption to recall the fact that the physicians and surgeons of the United States Army and Navy, during the late fratricidal war, on the assertion of the late Prof S W Gross contributed to perpetuate the Federal Union, since this class as non-belligerents and as represented by the AMERICAN MEDICAL ASSOCIATION, "suffered no disruption of the fraternal bonds which united them as brethren" Men of this stamp are entitled to be fairly dealt with by their peers of the Naval Service, and by the people's representatives in Congress, whatever reorganization of the *personnel* of the Navy may be agreed upon

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ETHYL BROMID ANESTHESIA IN POST-NASAL ADENOID GROWTHS

Read before the Chicago Medical Society Feb [illegible]

BY GEORGE MORGENTHAU, M D

PROFESSOR OF LARYNGOLOGY CHICAGO POST GRADUATE MEDICAL SCHOOL ASSISTANT SURGEON ILLINOIS CHARITABLE EYE AND EAR INFIRMARY (EAR DEPARTMENT) ETC

The subjects of "adenoids" is such a well-worn one that I would not venture to bring it before the society, had I not been encouraged in my doubts as to the proper way of operating on these growths, by a recent discussion of this very question at a meeting of the London Laryngological Society It appeared there, too, how wide is the diversity which exists as to the choice of the anesthetic, the posture of the patient, etc Since conditions are different with us, especially resulting from the preference given ether over chloroform by the profession at large, and the popular distrust in which the latter drug is held, since, furthermore, this mode of operation with ethyl bromid has not been described in American literature, I am in hopes that the discussion called forth by this short paper will prove to be out of proportion to its length

While it is held by many that anesthesia is not to be induced for this operation, I make bold to consider it both cruel and immoral unnecessarily to inflict severe—and often, quite severe—pain on a nervous, terrified, struggling child The poor little one can not accept an adult's logic, to it this manipulation is as frightful as a much larger one would be to its parent, and the latter, not infrequently, prefers to escape even the momentary pain caused by the extraction of a tooth It further demoralizes the child, who should look upon the physician as its friend, for whom it will open its mouth when requested to do so Children have excellent memories for injuries and insults offered them One little girl, for instance, was held by her father and two other men while the physician amputated the tonsils about three years ago She can not be prevailed upon to enter that office building again, and still retains the adenoids and an abiding distrust of physicians To use main force seems to the child's mind as convincing as the wise answer given by the proverbial eagle to the little bird protesting against being devoured, "but I am big, and you are small"

The numerous operations on the non-anesthetized child which one had opportunity to witness or perform at the Berlin Laryngological Clinic appeared unsatisfactory to me (and since then the method has been changed there) I, therefore, advise anesthesia in younger children, but operate without it in older children when there is only a hypertrophied Luschka's tonsil which can be removed *en masse* Chloroform and ether were employed by me in a limited number of cases The child lay either on one side, or on its back with overhanging head Chloroform is not feared without good reason, there were nine deaths in England alone within one year in just this operation Ether, on the other hand, is very disagreeable to both patient and operator, as it takes much longer to produce anesthesia, often causes great excitation, and increases the amount of mucus and blood to a marked extent The severity of the after effects, nausea and prolonged vomiting, and the undeniable dangers incidental to anesthesia with these drugs, led me to try the method I had seen practiced by Moritz Schmidt, of Frankfurt-on-the-Main I am now able to report on a series of 100 consecutive cases in which I operated either myself or assisted Drs Hardie and Holinger The operation is done in the following manner The patient's chest is first examined, as ethyl bromid should not be used in chronic heart and lung disease Then the clothing about the chest is well loosened I prefer to use the head mirror and reflect the light into the patient's throat It is advantageous to have the patient on a higher plane than the operator, the patient's chin may then be lowered upon his chest, and the blood made to run from nose and mouth If the patient is an older and sensible child he may sit upright in a chair, with a sheet about his arms and chest It is advisable, however, to have an assistant hold a younger child in his lap, in order to restrain it if it should struggle, and to steady the head during anesthesia A simple mouth gag should be introduced, although it is not absolutely necessary but valuable if a spasm of the muscles of the jaw should set in, as is sometimes the case, and as it saves time We prefer to administer the anesthetic by holding a common chloroform mask covered with oiled silk closely over mouth and nose The quantity to be used (1-2 drachms in children, 3-4 drachms in adults) is poured at once on a little gauze or cotton in the interior of the mask, the child may struggle a little in the beginning but as the drug has a not unpleasant odor and does not irritate the mucous membrane, it is easily and quickly reassured Often the face becomes flushed, the pulse is increased in frequency, but does not become weak or irregular, breathing becomes slower and a little shallower In forty to sixty seconds, breathing may be slightly stertorous, the eyes begin to wander, the uplifted arm drops to the side, the right moment for operation has come Pupillary and conjunctival reflexes do not serve as guides For two minutes only the patient does not feel any pain All instruments must, therefore, be within easy reach in order to save time The tonsillotome can be adjusted accurately and quickly under the guidance of the eye in good light (Moritz Schmidt uses the hot galvano cautery snare), the other tonsil is amputated with a second instrument With Gottsteins's modified curved curette the adenoids are next removed, one sweep being made in the center of the vault, and a second and third one on either side The older form of the Gottstein knife (the instrument is bent nearly at right angles) may then be used to sweep the posterior pharyngeal wall Finally, if on introducing the finger behind the soft palate, any remnants should be discovered they may be scraped away with the nail By this time, the child is nearly conscious, although not experiencing any pain, it opens its eyes, looks a little dazed, and appears but little disturbed Anesthesia, operation, and recovery thus occur in five to seven minutes The patients are ordered to lie or sit down immediately after awakening Most of them were able to walk alone in a few minutes Many left the office or dispensary in fifteen to thirty minutes, usually feeling quite bright and cheerful, occasionally they complained of a slight headache Three vomited a short time after the operation Nausea never was very pronounced Three patients vomited several times during the day without great nausea, in the evening they were quite happy and hungry One very high-strung and timid girl of 10 could not, at two different times with an interval of a week, be brought under the influence of the anesthetic

During anesthesia no alarming symptoms occurred The pulse was generally quickened, but not reduced in strength In four cases a spasm of the muscles of the jaw set in, notably of the masseter, which was easily overcome by pressing the spatula firmly on the tongue or behind the last molar, and thus forcing the mouth open No vomiting occurred during anesthesia, although some had eaten but shortly before I had seen involuntary urination and defecation occur in Germany—it is reported in adults, too—but we did not meet with a single instance Probably we do not push anesthesia far enough for that Twice I observed a peculiar after-effect, which is not easily explained in view of the denial of good observers that the red blood corpuscles are attacked by ethylization The children presented a grayish, rather ghastly hue in their complexion, which did not escape the attention of their mothers, and on feeling the pulse without their knowledge, I found it accelerated but strong This state lasted two weeks without producing any discomfort whatsoever Ethyl bromid is eliminated by the lungs only, sometimes with a garlic-like odor, no traces of free or combined bromin are found in the urine

It is of the utmost importance that the reflexes are not abolished The persistence of the laryngeal reflex justifies what would otherwise be a dangerous procedure, keeping the patient in the upright posture No blood can enter the larynx without producing immediate reaction, i e, being expelled by coughing The pieces of severed tissue either adhere to the instrument, or are swallowed or expectorated As soon as the vault has been cleared, the patient is ordered in a loud voice, to "spit it out" Even when consciousness has not completely returned, the command is automatically obeyed Most of the blood escapes through the nostrils and the inclined groove formed by depressing the tongue and holding the chin downwards When the vault is again entered, in order to palpate and scrape away any stray adenoid tissue, the patient is analgesic even if manipulation should be perceived, and recalled later on

As far as the results of this mode of operating are concerned, we are well satisfied Recurrence took place in only one case, where Dr Holinger yielded to the entreaties of the mother to operate on her daughter three times within six months The parent declared that her daughter always grew stupid when the growths were there The patient was a girl of 16 who could easily be examined with the rhinoscopic mirror Dr Holinger could thus convince himself that none of the growths remained behind after the operations As far as my experience with forceps goes, it is not possible to remove all the adenoids in the limited time at our disposal Cutting, as it usually does, transversely, it has undoubtedly caused many severe hemorrhages, primary and secondary, by nipping the posterior ends of the turbinated bodies or the posterior edge of the septum I know of but two cases of severe secondary hemorrhage after operation with Gottstein's curette, and in one, which happened to me, I ascribe it to the fact that I removed but little at the sitting, not having anesthetized the patient, a young woman Even that popular and vigorously grasping forceps invented by a distinguished member of this Society may in busy hands, when one of them is introduced into the nasopharynx to guide the instrument, be the cause of much unnecessary blood shedding The upright position enables the operator to use the Gottstein knife quickly and effectually The instrument is so ingeniously constructed that it is impossible to do damage with it In cases where I found great swelling of the nasal tissues, I have applied a weak solution of cocain (4 per cent) The shrinking of the tissues allows the blood to run freely through the nose The bromid of ethyl we employed with great satisfaction is made by Merck of Darmstadt It is sold in one ounce, sealed, dark glass tubes In glass stoppered vials, it is not reliable I have found that the liquid had entirely evaporated although the original packing had not been disturbed The most practical form would be in one half ounce tubes, just enough for one anesthesia in an adult It is not safe to keep an opened bottle for any length of time, because the ethyl bromid is decomposed by sunlight or in contact with air The best preparation is obtained, according to the German pharmacopœia, by distilling a mixture of alcohol, sulphuric acid and bromid of potassium The product is colorless, of neutral reaction, with a pleasant odor It must not be confounded with bromid of ethylene, a most dangerous mistake to which one death must be ascribed which was charged to bromid of ethyl The impurity of the older preparation, and its cost were reasons against its use which do not hold good to day

The career of the drug is a checkered one, it has had its ups and downs It is only just, however, to say that, like the historic queen, it is better than its reputation, and is at present in great favor Discovered by Serullas in 1827, it was first used by Nunnely, of Leeds, in 1849, and again lauded by him in 1865 He considered it one of the best of anesthetics, a view in which B W Richardson declared he fully concurred In America it was introduced by Turnbull in 1877, and extensively used by Levis, of Philadelphia, Chisolm, Conner and many others In spite of their enthusiasm based on several thousand successful cases, the reports of a few deaths, notably one by Marion Sims, and the unfavorable results of experiments made by Wood on animals, drove it into oblivion It would lead too far to follow in detail the arguments advanced by its adherents and opponents, although the perusal of the literature bearing on the subject (New York *Medical Record*, 1880, and other journals of that year) is most fascinating to the student of medical history In the last five years ethyl bromid has again been taken up by the profession It is steadily gaining in favor with German laryngologists, the Berlin Clinic reported excellent results in 200 cases, agreeing in nearly every point with our experience Moritz Schmidt speaks highly of it in his latest book He performs all the adenoid operations in his office with this anesthetic German dentists are using it to a great extent instead of nitrous oxid because of the appreciably longer anesthesia Witzel (*Monatschr Zahnheilk*, 1891, October), for instance, after 465 trials, calls it the least dangerous anesthetic, as much devoid of danger as nitrous oxid His experience is most valuable, as it includes patients sent from the various clinics at Marburg, among them are six with severe diseases of the heart and lungs, eleven with pulmonary disease, etc He speaks of the anesthesias as excellent with twenty eight exceptions These are given under different headings

a Great excitation in nine cases Of these, four with much sweating

b Cyanosis in two students somewhat the worse for liquor

c Asphyxia, but rarely with his method (first, a few drops, then the whole quantity of the anesthetic)

d Malaise, feeling of lassitude, vomiting

e Urination in three cases

f Great sexual excitement

But these phenomena, he asserts, will be seen with any other anesthetic In two cases he could not produce anesthesia with one and two ounces In six cases he anesthetized the patient twice in one sitting, in two cases, three times

In regard to the dangers of bromid of ethyl anesthesia, there are numerous and most contradictory statements to be found in literature I do not wish to conceal that even with the new and purified drug, fatal cases have occurred While one (Billroth's) would have ended just as unfortunately had any other anesthetic been used because the patient's heart was diseased, while another, occurring on the day after its administration, can not positively be attributed to it, nevertheless there are three cases in which ethyl bromid can not be exonerated Statistics are, unfortunately, not complete enough to be of value, and, furthermore, the number is not nearly great enough to allow of any definite deductions as yet Gurlt's statistics (*Arch Klin Chir*, vol I, 1891) place ethyl bromid between chloroform and ether

Chloroform, 166,812 cases with 63 deaths—1 2647
Ethyl bromid, 7,511 cases with 2 deaths—1 3770
Ether, 26,320 cases with 2 deaths—1 13160

These figures will certainly be modified in the next report as far as ethyl bromid is concerned, making the ratio a much more favorable one as the number of administrations increases, the Billroth case of the patient with diseased heart turning the scales most unfairly

The discussion on this subject in the Berlin Laryngological Society (*Berl Klin Woch*, No 1, 1891) shows well how contradictory are the views held by various observers While the essayist (Ed Meyer), relying on 200 successful administrations, could speak highly of the lack of danger. and the other good qualities of this drug, Grabower quoted the results of experiments on rabbits He declares it to be one of the most dangerous of narcotics, if not the most dangerous one After a few inspirations the pulse rate is greatly increased, later on arythmia, then genuine cardiac delirium with utter lack of coordination of the different parts of the heart In a short time the heart stops During arythmia there is no abnormality of respiration Thus there is no warning of danger as with other narcotics Others controverted the right to draw conclusions from experiments on animals in reference to the human economy

In his "Text-book on Therapeutics," Hare draws attention to the studies made in Jefferson Laboratory, which show that the dominant action of ethyl bromid is on respiration, not on the circulatory system Its effect is depressant, but only seen after excessive doses Blood pressure falls under its influence to a slight degree, and the pulse is slowed through an influence probably exercised on the inhibitory nervous mechanism of the heart

H C Wood, however, from a series of experiments made upon lower animals, has arrived at the opinion that it acts upon the heart in a manner similar to chloroform, although its influence is not so depressing A more recent investigator (Brubacher) found, in experimental intoxication of rabbits and guinea pigs, *that the heart always continued to beat regularly and powerfully after respiration had ceased*

Schneider, Professor of Dentistry at the University of Erlangen (*Monatschr Zahnheilk*, May, 1890), who uses ethyl bromid extensively in practice, made a most searching series of experiments in the Physiological Laboratory His deductions appear well founded, and are as follows

While it may be admitted that under the influence of chloroform the red blood corpuscles are disintegrated, producing fatty metamorphosis, we must deny a similar action to ethyl bromid in every respect, believing that we proved by microscopic, chemic, and physical examination

That bromid of ethyl can not produce any change whatsoever in the red blood corpuscles

That bromid of ethyl, on account of its lower boiling point, is very rapidly eliminated from the body by the lungs

We, and with us most of the authors, have observed that even in deepest bromid of ethyl narcoses, the pupils are hardly contracted This proves that these vapors have not an energetically paralyzing influence on the medulla, because the narcosis is reduced to a previous stage by the rapid elimination of these vapors by the lungs It was demonstrated, moreover, by the hemodynamometer that the blood pressure always suffices for an exchange of gases, and, finally, the sphygmographic curves, of which the author made a great number, show hardly any change in the pulse tracings This proves that contraction of the muscles of the vessels takes place while most chloroform tracings show paralysis of the vasomotors There is a slight diminution of the blood pressure from reduced innervation That is to say, cardiac alterations are much less than in chloroform narcosis With at least as much right as it is maintained of ether, bromid of ethyl has only a slight depressant action on the heart, and death from ether results from paralysis of the respiratory center When ethyl bromid was administered to animals in fatal doses respiration stopped much sooner than the heart, which continued to beat regularly and vigorously after respiration had ceased

After all, laboratory and animal experiments do not seem to bring us much nearer to a universally acceptable solution of these questions The long and bitter fight between chloroform and ether partisans is still raging Until we have an absolutely safe anesthetic, if that is possible, we must content ourselves to run risks Even if ethyl bromid should prove to be more dangerous than ether, the incomparably snorter duration of anesthesia would outweigh the apparently greater security of etherization It is a question which must be decided by many thousands of clinical experiments, as it were The opposing views have been presented impartially, without allowing my gratitude for the time and trouble saved by the use of this anesthetic to blind my judgment The manifold and obvious advantages of this mode of operation will, I may trust, recommend it to many as well worthy of extended trial

Venetian Building

THE IMPROPER USE IN MEDICAL LITERATURE OF CERTAIN WORDS AND PHRASES

BY CASEY A WOOD, M D

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In one of his published letters, Oliver Wendell Holmes writes "I've sometimes made new words In 'Elsie Venner' I made the word chrysocracy, thinking it would take its place—but it didn't, plutocracy, meaning the same thing, was adopted instead Oddly enough I had a letter from a man to day asking if I did not make the word anesthesia, which I certainly did"

The life history of words and expressions, medical terms included—how they came to be used at all—how some of them, after enjoying a period of prosperity, even of aristocratic connection, sank into obscurity—how some of them were resuscitated and afterwards became a part of the speech of every-day life—how certain candidates for favor were rejected while others were taken up, fêted, caressed, and finally became immortalized in the common dictionary of the language—all this forms a story of the greatest interest It may also be pointed out that words endure on account of some quality inherent in themselves or because of their peculiar environment or in virtue of both A medical term survives when there is a great need for it and when its form is pleasing to the literary sense (if one may use that phrase) of the community

There is quite a large number of medical terms knocking for admission into the fold of our scientific vocabulary, either as entirely new forms or as later and better representatives of old ideas What proportion of these will be adopted into the growing family of medical terms remains to be seen Meantime their employment is entirely unauthorized

The following sentences contain examples of the improper use, in this sense, of certain words that occur occasionally in our medical journals The objectionable words are italicized (*a*) On the next day we *operated* the child (*b*) Care should be taken not to *operate the cataract too soon* (*c*) *If the operated* eye remains quiet it is better to interfere early (*d*) These symptoms may be due to a swollen *turbinate* (*e*) The *iritic* reflexes were found to be normal (*f*) If we wish to measure the total ametropia, it is usually necessary to employ a *mydriatic* (cycloplegic) (*g*) It is often difficult to *refract* such a patient (*h*) In cases where the *refracted* eye is shown to be emmetropic (*i*) the *refractor* places a convex lens before his own eye

(*a*), (*b*), (*c*), In Vicente Salva's Spanish-Spanish-Latin dictionary, the nearest approach to a Latin equivalent of the Spanish word *operar, to operate upon*, is given as *operationem chirurgicam peragere* The English language has in this particular followed the Latin construction more closely than the so called Latin languages themselves There is no single transitive verb (derived from *opus*) in either tongue

onveys the idea of the performance of a surgi-
eration If there be such it will be found in
orks of modern writers of Latin who, under
an, French, Italian or Spanish influence, have
d a corrupted derivative (*operare*) from the de
nt verb *operari*, which has quite a different sig
nce from *operar*, *operer*, *operare* (Italian) and
ren, which are, in a perfectly legitimate sense,
ative It is probable that the above mentioned
objectionable use of the English verb may be
d to the same source This probability will be
ght out by the following short sentences and
ses taken at random from foreign publications
habe das operirte Auge sehr oft untersucht Einen
den, die Augen, den Staar u s w operiren
chirurgien est habile il opère parfaitement bien,
opéré dans la journée deux hommes qui avait la
re Il primo a operare con successo l'estirpa-
e della laringe fu un italiano So that while
continental surgeon we are best acquainted with
ally *operates* his patients or their organs, *we* must
tinue to operate on or *upon* them
(*d*) This word is never used as a noun, although
ere is abundant authority for the employment of
rbinal—meaning a turbinated bone For example,
Huxley's "Anatomy of the Vertebrates" occurs the
llowing "Forming the floor of the front part of
e nasal chamber on each side is a large concavo
onvex bone   which is commonly termed a
rbinal   does not truly correspond with the
rbinals of the higher vertebrata" This pretty well
isposes of the argument (in favor of "turbinate")
hat we have no single word in English to designate
turbinated bone

(*e*) A moment's consideration of the fact that the
djective *iritic*, like *neuritic* and *pleuritic*, has to do
with the inflammation of the part designated by the
first portion of the word should be sufficient to
prevent the mistake of using it to refer to the
part itself On the other hand, this improper
use of *iritic* is not uncommon, I have lately seen it
so employed in one of our most widely known medi-
cal journals Legitimate adjectives (derived from
iris, gen *iridis*) are numerous enough, there is good
authority for *iridal*, *irian* and *iridian*, not to men-
tion the frequent and proper use of the noun *iris*, as
an adjective

(*f*) The use of *cycloplegia* and *mydriasis* as synony-
us terms and of *mydriatic* and *cycloplegic* as inter-
ngeable adjectives and adjective nouns is one of
commonest errors one meets with in medical lit-
ture A mydriatic may be, but is not necessarily,
cycloplegic, even though a cycloplegic is usually a
ydriatic A giant is always a man, but men are
t necessarily giants The electric current and a
arter-grain solution of cocain are under certain
nditions mydriatics but neither of them is a cyclo-
legic If one wishes to refer specifically to the dila-
ation of the pupil the ancient term *mydriasis* should
e employed, reserving the modern word cycloplegia
from κυκλος, a circle, i e, the ciliary ring, and πληγη,
stroke) for indicating a paralysis of the ciliary
muscle

(*g*), (*h*), (*i*) It is not uncommon to witness the incorrect employment of these words, even by those who make some pretensions to scientific accuracy If we think of their etymology (or consult any dictionary) it will not be difficult to show the inaccuracy of connecting the idea of personality with any of them One may properly *measure* or *determine* the refraction of a patient's eye,—but ought not to say "I advise you to refract Mr Jones," or "You had better refract both his eyes," which would be tantamount to condemning Mr Jones or his eyes to be broken up or bent back (*re* and *frangere*) In the same way the noun, *refractor*, has been incorrectly given a new meaning—that of a person who determines the refraction of the ocular media, *vulgo*, a man who fits glasses One meaning of *refractor* is that of a telescope and the idea is of something that refracts, or bends from their course, light or sound waves

Although it is undoubtedly true that we can not with propriety speak of *refractor*, *refract* and *refraction* apart from a *thing*, yet it can not be denied that the phrases, "to measure Mr Jones' refraction" and "to determine the refractive condition of Mr Jones' eyes," are entirely too clumsy and eat up too much time Already, in England especially, the shorter expression "to measure Mr Jones" (for glasses) is in vogue In practice this would be less objectionable (to Mr Jones himself and others) than "to refract Mr Jones," who might be hard to bend or break

There is a demand, but less urgent, for some term that will designate the person doing the refraction work above referred to, but that "refractor" meets this philological want is at least doubtful

Many other examples of the questionable use and application of terms in medicine might be given, but such a task may well be undertaken by some other writer better qualified to complete it

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SCARLATINA AND THE STREPTOCOCCUS INFECTION

Read in the Section on Diseases of Children at the Forty fifth Annual Meeting of the American Medical Association, held at San Francisco, June [illegible]

BY ROSA ENGELMANN, B A, M D
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CHICAGO

The clinical history and symptomatology of scarlatina point to a virulent infection Streptococci are found in the throat, cervical glands and other lymphoid structures, as well as in the blood, pleural, pericardial and peritoneal secretions, internal organs and skin of patients succumbing to this dread disease

Mr Berge, in a paper read at a recent meeting of the Biological Society of Paris, maintains that scarlet fever is the result of a local infection by the streptococcus In an article upon "The Local Lesion of Scarlet Fever," Dowson speaks of the "accidental inoculation of the tonsil by minute scratches while taking food"

No one questions the common etiology of idiopathic and surgical scarlatina Their relation to puerperal fever and pelvic suppuration is admitted Consequently their affinity to any local abscess formation, septicemia or pyemia must be conceded No clinician has failed to observe the likeness of the course and progress of an attack of scarlet fever to one of septicemia or even pyemia Postmortem records emphatically corroborate this characteristic and harmonize the seeming conflicting facts with the specific microbic distinctions and diversities With reference to the latter and the progressive changes in the biologic field, Hueppe says "For a better enlightenment, and under the influence of a strictly scientific apprehension of the etiologic problem, these rugged differences are disappearing" In the effort to determine the cause of such apparently diverse conditions as erysipelas, scarlatina, septicemia or suppuration, the specificity of the streptococcus erysipelatis, the streptococcus scarlatina, the streptococcus pyogenes may have been too markedly dwelt upon and their almost biologic indistinguishability overshadowed Osler believes "the rash of puerperal fever and of surgical scarlatina to be the red rash of septicemia" To me, it seems reasonable to push this thought to its logical conclusion, viz, to call the red rash of *idiopathic* scarlatina a septicemic eruption Such complications as endocarditis, arthritis, etc, are doubtless pyemic, and possibly indicative of but a more malignant and extensive scarlatinal incursion

Fraenkel, Baumgarten and lately Knorr are avowed advocates of the identity of the streptococcus erysipelatis and the streptococcus pyogenes In 1889 Fraenkel by erysipelas culture inoculations, caused purulent ophthalmia in one case, peritonitis in another and an abscess of the skin of the back in a third case This proved to his mind "the identity of the two," while "clinical differences in the disease were due to the mode and locality of the infection, perhaps also to the quantity of the virus and disposition of the individual" The identity of the scarlatinal and pus germ is as yet undetermined, although by many, they and the streptococcus erysipelatis are considered as different varieties of one and the same species It yet remains to bring this theoretical work into consonance with practical clinical experience

Spatswood in a recent article entitled "Infant, 1 Month old with Erysipelas of Head, Face, Neck, Trunk and Extremities," traces the infection to the mother, who four days after delivery came down with puerperal fever Dowson reports a case of scarlet rash superimposed upon an otorrhea Gimmel reports two adult cases of erysipelas developing upon a previous scarlatinal attack In the one case, scarlatinal desquamation took place on the sixth day and upon the tenth day was followed by a localized facial erysipelas exfoliation He is of opinion that "the scarlatinal poison may often have, just as in erysipelas, its point of entrance in an epidermal injury" "It is a question with me, whether or not in these cases the etiology of the two processes was not identical, for the erysipelas occurred during the desquamative stage of scarlatina and the contagion carried to a nasal excoriation by the desquamating skin"

As early as 1840, Braun calls *attention* to the fact of many contemporaneous attacks of angina and facial erysipelas A scarlet fever case of Glaser's in whom great flakes of desquamating skin exposed the deeper, oozing, rete malpighii suggests to me the possibility of this disease invasion through the skin as well as through the usually accredited portal, viz, the tonsils

In the *Archives of Pediatrics*, April, 1893, I reported a case of erysipelas, contracted by the father through the scratch of his child's fingers, the child at the time being sick with scarlet fever

In February, 1894, I was called *to see a boy* suffering from severe scarlatina which prevailed in his neighborhood There was an enormously large bilateral cervical adenitis The matter was deeply seated and caused some respiratory embarrassment The patient was in a dangerously septic state, much enhanced by a superadded right facial erysipelas The surface was swollen, brawny, glazed and involved the eye and neck of that side Unfortunately, I had no further opportunity for observation of this interesting case But I was again profoundly impressed with the probable identity, or at least possible interchangeability of the pyogenic, erysipelatous and scarlatinal microorganisms and their correlative aggression

Jordan, in the *Centralblatt fur Bakt*, 1891–92, concludes that "Erysipelas is etiologically not a specific disease" He is criticised for "so many conclusions on so few cases" I must plead guilty to the same indictment, but because of the importance and interest of my theme, present it for consideration. The etiologic and clinical parallelism of scarlatina, septicemia and erysipelas having been presented, their points of non-resemblance, variable intensity, individual susceptibility to, or immunity from, must be explained Their diverse manifestations need interpretation, for in the one instance an abscess or septicemia obtains, in another, erysipelas, and again in a third case scarlet fever

Varying virulence is probably dependent upon the life history of the germ, its different avenues of entrance and the natural and acquired immunity of the invaded organism The character of the disease may likewise depend upon the vulnerability of the individual, some responsibility being attached to age, heredity, congenital disease, anatomico-physiologic conditions peculiar to age and personal environment.

An infectious agent is often innocuous to a healthy individual, illustrated by the presence of Loffler's bacillus in the throat of healthy persons Diphtheria and scarlet fever are preeminently dangerous diseases of childhood Why? Not alone do adenoid tissues, especially accessible to bacterial encroachment, prevail in youth, but this period of life has anatomic structure of fauces, larynx and skin peculiar to it Again, a great majority of the child world are born with a rachitic, tubercular or syphilitic taint They are subjects of a lymphatic diathesis, particularly prone to the streptococcic onslaught In childhood, mucous membranes and skin are to some extent unripe and tender, and their peripheral layers easily succumb to the deleterious effects of implanted microbes Large assailable epidermic surfaces are perhaps exposed to a diffuse and overwhelming incidence Scarlet fever results, its mildness or severity gauged by the quantity, virility, extent and penetration of the overpowering force and the age, health or disease of the besieged organs and tissues The sheltering care and environment of childhood ordinarily prevents the grosser lesions necessary to the inception of erysipelas and ordinary wound septicemia; adult exposure diseases Environment is here a great factor The horny, mature, epidermal layer also *withstands, consequently localizes, the streptococcic* irruption Erysipelas results, the graver, the larger the implicated surface Grosser injuries and inundation of the blood by the streptococcus determines a septicemia A lymphatic streptococcic incursion, a final connective tissue space involvement, determines abscess formation Idiopathic erysipelas has disappeared from the nomenclature Idiopathic scarlatina will eventually meet a similar fate for the same reason The association of surgical scarlatina and puerperal fever are regarded as modified scarlet fever Erysipelas may in the future be considered an analogous variation, due *to* differ-g essential character and inherent quality of tissue tacked

As anthrax displays three forms of disease conse-ient upon the entry of the bacillus into different gions of the body, so might the streptococcus give se to diverse manifestations according to its mode entry through the adenoid, mucous, serous, epider-al tissues or blood When we consider that the icidence of scarlet fever is only 5 per cent it does ot compare unfavorably with that of erysipelas and epticemia over which such a cry of susceptibility nd immunity is not raised Heredity, perfect ealth and fully developed structure may account for atural scarlatinal immunity A previous attack or protective blood serum inoculation, as demonstrated y Ashmead, produces artificial or acquired immu-ity However, positive scarlatinal immunity can not e sustained in the face of accredited cases of second ndependent attacks

The subject of immunization will be nearer solu-ion with the development of the toxin and blood erum therapy questions Thus future therapeusis will be directed into 1, the antiseptic, 2, the antitoxic lines

Before closing, I wish to place myself upon record as strenuously opposed to the use of inunctions in scarlatina, for I have long believed that the diseased skin and secondarily the kidneys, by reason of an oily lacquer are made to carry an additional burden Arnheim, Unna, and recently Ssokelow, have proved that in scarlet fever the respiratory and secretory function of the skin is seriously involved, consequently inunctions but aggravate this condition and cause secondary nephritic complications In the face of this evidence, warm antiseptic baths had better supersede so dangerous a procedure, thus promoting physiologic function and meeting anti-bacterial indications Through biologic research we again see surgical cleanliness invading the domain of medicine To sum up

1 A specific scarlet fever germ or toxin is not yet demonstrated
2 The disease is associated with a streptococcus infection
3 A streptococcus admitted to be the cause of surgical scarlatina and puerperal fever
4 A streptococcus admitted to be the cause of erysipelas
5 The frequent association of the latter with puerperal fever and it in turn with surgical scarlatina
6 The relation of idiopathic scarlatina to surgical scarlatina and puerperal fever acknowledged
7 The identity of the streptococcus pyogenes and erysipelatis advocated
8 Clinical records showing the association of suppuration, erysipelas and scarlatina in one and the same subjects, suggestive of the parallelism of these three infections and the probable biologic identity of these several streptococci
9 Clinical differences and varying susceptibility to the one or the other due to heredity, age, anatomico-physiologic conditions, congenital disease, environment, life history of the invading host and its avenues of entry
10 Disappearance of idiopathic erysipelas from the nomenclature Analogously, idiopathic scarlatina may meet a like fate
11 Natural immunity due to heredity and healthy fully developed structure
12 Acquired immunity from antitoxins of the disease or through blood serum therapy that will revolutionize the treatment of this dread disease
13 Inunctions disapproved of Antiseptic baths better meeting anti-bacterial and physiologic indications

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THE VAGINAL DOUCHE IN ITS RELATIONS TO BLENNORRHEA IN THE FEMALE

Read before the Louisville Academy of Medicine, Feb 18, 1895

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To be concise, to avoid irrelevancy, to be up to date, to be orthodox, is the aim of this paper

What is blennorrhea or gonorrhea, as you may please to call it? The following quotations from Fin ger[1] embody my answer of this question and will be the basis of my argument

"So many positive inoculations have been made that doubt of the pathogenic character of the gonococci is hardly possible at the present time, in fact its etiologic significance is not recognized universally except by a small group of French writers"

Further on, after viewing the full history of laboratory research in this matter he says "If we make a résumé, the following facts may be regarded as well established

"1 The gonococcus is found in all cases of suppuration of the mucous membranes, especially of the genitalia and conjunctiva which are described clinically as gonorrheal

"2 It is absent in all non-gonorrheal processes

"3 Pus free from gonococci does not produce gonorrhea

"4 Pus containing gonococci produces gonorrhea

"5 The microorganisms which are cultivated from gonorrheal pus, but which are not identical with the gonococcus do not produce gonorrhea

"6 The gonococcus cultivated from gonorrheal pus produces gonorrhea with distinct increase of the inoculated microorganisms"

In the comparatively modern literature of gonorrhea that has, in its full fruition led up to the evolution of the laparotomist and his hospital, Van Buren stands undeniably first It is now quite thirty years since he wrote "More people die of clap than do of syphilis" Like most prophetic warnings his statement was long ignored and unappreciated Ten years later, Noeggerath "wrote himself down an ass" in his paper on "Latent Gonorrhea and Its Influence on Fertility in Women" The story is a long one and instructive as well Nothing but the *pudor*, the false shame that surrounds it, has kept it from resounding through the columns of almost every phase of literature

Noeggerath's second pronunciamento came in 1876, yet as late as 1884, Milton, the most voluminous writers on gonorrhea of ten years ago, refers to specific endocervicitis, endometritis and ovaritis as *complications* of an original specific vaginitis Finger (*op cit*) says "I still remember when it was impossible for me to demonstrate a trace of blennorrhagia on examining a woman from whom a man was proved to have acquired acute gonorrhea Not alone could the diagnosis not be made in many cases, but the severity of the process in women was not recognized The knowledge of the process was confined to the recognition of vaginitis, vulvitis, abscess of Bartholin's glands and urethritis The latter was regarded as very rare (5 per cent of all blennorrhagic females—Zuisl) Very bold syphilologists ventured to speak of an 'endometritis cervicalis blennorhagica'"

In 1874, Bumm first called attention to the cervical canal as the frequent site of gonorrhea, and although the gonococcus of Neisser was demonstrated in 1879, it was not until 1891 that Kratter insisted on the microscopic examinations of secretions and curettements before making a positive diagnosis

Currier ("Morrow's System," 1893), while questioning somewhat the absolute relationship in the matter of cause and effect between the coccus of Neisser and gonorrhea, rates himself a specificist in saying "Gonorrhea in a woman always implies a precedent gonorrhea in some one else it never exists *de novo* either in man or woman"

I am indebted to the article by Currier just referred to for much of the following history He says "In recent times it has been seriously questioned by more than one thoughtful writer, whether gonorrhea of the vagina ever exists as a primary condition"

Bumm, in 1891, after a study of fifty-three cases of gonorrhea in the female, found that the cervical endometrium was the seat of gonorrhea in 75 per cent of the cases, the corporeal endometrium in 15 per cent, and the tubes in 3 5 per cent "Formerly," said he, "I questioned the existence of vaginal gonorrhea in adults, now I believe it seldom occurs in adults as an acute process and *never as a chronic one*"

Sanger finds gonorrhea most frequent in the cervical endometrium He holds that while the vagina necessarily receives this discharge it is not always influenced by it

Sternschneider finds the urethra the most frequent site of acute, and the cervical endometrium of chronic gonorrhea in the female

Eraud demonstrates the frequency of cervical gonorrhea by curettement In common with other observers, he believes that the exemption of the vaginal mucous membrane from the disease is due to the character of its epithelium (pavement) which is not favorable to the growth of the gonococci He holds that gonococci found in vaginal secretions are migratory

Horand gives some interesting statistics in that they contrast in this matter, childhood and adult life He states that in eighty five female children with gonorrhea he found vaginitis in sixty-eight In twenty of these the vagina alone was infected

Currier aptly refers to the structural difference between the vagina of children and of adults as an explanation of this In the very young the vaginæ are lined with an exceedingly soft, delicate epithelium and are or should be unused and almost sealed passages, while in the adult, with her descended womb and recurring menstruous flow to say nothing of other influences, ablutions, etc, the resistant pavement protective speedily hardens and with the many benign and septic germs that innocently find lodgment there, some quite probably inimical to the coccus of Neisser, it is not at all a matter of wonderment that her vagina is almost absolutely proof against the disease

To summarize Gonorrhea in the female is ordinarily anything but a vaginitis It attacks the vulva and its appendages, the urethra, the uterus and even the tubes and ovaries, sometimes, notably in children and young girls, the vagina But in such cases it is always of an acute and so temporary type, a type which because of its necessarily concomitant symptoms is not conducive to contagion Need I enlarge upon the inferences to be drawn from this array of facts? That the vaginal douche if used as a curative agent for a presumed specific vaginitis, is useless must be apparent to all, and in the light of modern science the *strong* zinc or alum for the woman, as a parallel of the *weak* zinc or alum for the man, is a thing of the past So, too, of boric and bichlorid and permanganate and all of the growing family of curative specifics, all are futile in vaginal douching Yet the douche has its place and wisely used this is unquestionably a place of the highest importance hat is it? First, it is a prophylactic agent We cognize how feeble the hope of prevention is, where lacerated surface receives friction in the sexual act, th a chancre But not so with the gonorrheal rus Here the prompt douchment with a fountain ringe, hot water, and, say a dash of vinegar may productive of great good Here is rational hope escape from infection, and with statistics demonrating the cervical canal to be the commonest site infection, I would in the abstract say that a thorigh hot douchment of the vagina, the subject recument, in every case where risk is incurred, would in s results alone justify the retention of the vaginal ouche in genito urinary practice Beyond this it is, as a rule, two purposes in gonorrhea and two ily 1, for cleansing and disinfection, with, say, rbolic acid or some other of the creasols, or with mply warm water, non-curative but of much worth, id, 2, its use as a means of applying the soothing ifluences of moist heat to those inflamed and sensive organs, the uterus and its appendages Here it iay be undoubtedly made fruitful of much good, et here unless it be desired in its use to at the same me wash from the vagina the migratory virus, I ould suggest that much greater benefit will accrue the vaginal douche be given *in the rectum*

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[1] Blennorrhea of the Sexual Organs by Dr Ernest Finger, translation, third edition Wm Wood & Co 1894

DISCUSSION

Dr L S McMurtry—The paper read by Dr Palmer is too aluable a one to be allowed to pass without discussion It s a clear cut syllabus of facts from beginning to end, and I idorse it thoroughly Van Buren s statement was indorsed y Lawson Tait in his great work and in all probability awson Tait never saw Van Buren's writings The statenent referred to was that of the two diseases, gonorrhea as much more severe and dangerous to life than syphilis, nd in late years the profession had recognized this As he gonococcus finds a nidus in the cervical canal the vagiial douche as a curative measure is useless the specific irus being lodged where it can not be reached After the cute symptoms have passed little is heard of it as a chronic nalady, it is in the tubes, a gonorrheal salpingitis develops, the pus leaks out in cavity peritonitis increases and t is the severe general symptoms which bring the patient o look for advice and treatment It is true, radical measres can cure, but if only the lower mucous membrane is ffected the patient is not invalided and the physician is rarely consulted

Dr. W H Wathen fully indorsed the conclusions of Dr Palmer's paper, and was impressed by the statement that the vaginal mucous membrane is seldom involved in gonorrhea He had frequently examined patients with gonorrheal discharges and frequent micturition, and from a microscopic view there was no change in the vaginal mucous membrane, and this must be accounted for by the resistance this membrane has for the gonococcus He does not know what position to take in regard to douches in specific vaginitis Hot water is as good as any antiseptic, patients are benefited by frequent hot douches, and patients thus treated have not developed pus tubes If the gonococcus has invaded the cervix and uterus in acute cases, it is only the superfices, it should be curetted and washed with a 1 to 5,000 bichlorid solution, and tamponed with iodoform gauze Gonorrhea is not so frequently the cause of pus tubes as was formerly believed, but it is oftentimes the cause, especially in young married women who have married men who thought themselves cured of a gonorrhea Now can any one tell what percentage of involvement of the vagina, uterus and tubes has been due to the gonococcus? The pus tubes removed, if no gonococcus is found does not indicate that it was not there, the gonococcus is a sensitive bacteria In the large chronic pus tubes no gonococci are found The older and larger the tube the less virulent the pus

Dr Dugan said that the absence of the gonococci from the pus in tubes is an evidence that the pus is not due to this organism Scraping of the endometrium is not effectual, because the gonococcus is not satisfied with the surface, but dips down The primary lesion is a stricture analogous to the stricture of the urethra in the male The septic bacteria or those of suppuration are associated with the gonococcus the drainage is interfered with on account of the stricture and an abscess results, formed by the bacteria of suppuration

Dr Frank stated that Dr Palmer had explained why the vagina is not affected by the gonococcus Gonorrhea does not exist in pavement epithelium surfaces and in all cases in which there exists gonorrhea with a discharge it comes from the uterus or cervix A vaginal douche is of no avail as a curative measure, but it may give some relief Dr Dugan has explained why the gonococcus is not found in the pus of pyosalpinx The gonococcus invades the deeper structures, it is found in the tissues on section He had demonstrated in one case in which there was from one to one and a half ounces of pus in a pyosalpinx, the presence of gonococcus Treatment of gonorrhea should not be by the douche but by applications to the uterine mucous membrane, curetting and drainage, taking away the mucous and some of the glandular structure This may not prove effectual, as these glands dip deep down in the muscular coat, and to have regeneration of tissue some of it must be left The gonorrhea may travel by means of the lymphatics The paper read by Dr Palmer is interesting and timely

Dr J B Bullitt complained that this most excellent paper read by Dr Palmer had left us in rather a hopeless state, as he had offered no treatment to take the place of the vaginal douche which even now many believed to be the only treatment, and he knew that all would be obliged for a treatment to be advised

Dr McMurtry asked if gonorrhea in male or female ever got well spontaneously

Dr Palmer answered that nine women in ten never get well and a large percentage of men do not Almost all of the speakers had approached the subject from a different standpoint than he had treated He rather looked to the possibility of the disease being transmitted to men, and they, in turn carrying it to the marital couch The pus in the pus tubes is different from the pus in the urethra, the gonococcus is a dainty organism, not content even with the urethra, for a drop of serum obtained from the former five days after the development of the disease has been found to contain the gonococcus Of all organisms the gonococcus is a burrower, and all authorities show that it is want of care and persistence on the part of the examiner which causes him to fail to find the gonococcus He had under his care at present a girl 11 years of age who had never menstruated, but who had a profuse gonorrhea in the discharge of which the gonococci had been found by Gram's method

The left vulvo vaginal gland was involved, there was vaginitis, vulvo vaginitis and vulvitis Bichlorid 1 to 2000 douche had been used for one week and at the end of that time after cleansing thoroughly he could not touch the uterus with his very long finger A virginal speculum was introduced and the entire vagina was as raw as any raw meat he had ever seen the cervix could not be found, and the conclusion was arrived at that the patient had a virginal uterus which had not descended from the abdominal cavity This case was cited to show the difference between an adult female with gonorrhea and a child, in the latter there occurred a vaginitis Nine out of ten men contract gonorrhea from women who have this disease in the subacute or chronic stage If in the acute stage they could not receive the male organ on account of the pain In acute gonorrhea of the female there is no sign, unless there be a urethritis or vulvitis, until the cervix is reached, cleanse the vagina and you see nothing indicative of inflammation but a tender cervix, and a flow of pus from the canal The gonococci may remain here for fifteen or twenty years In the case of the girl with gonorrhea, fully one ounce of pus was mopped out, this alone showing the inefficiency of the douche, which had first been given thoroughly In the treatment of adult females, in a suspected case it is better to use a powerful chemic agent rather than the knife or curette Churchill's tincture of iodin is good, this should be carried up and allowed to lie there, asking the patient to possess herself with patience perhaps making two or three applications at one sitting The douche is good for cleansing purposes The cervical canal is the seat of gonorrhea in 75 per cent of all cases, the vagina is never the seat of chronic gonorrhea The gonococcus lets the vagina alone Rather send the water up into the rectum, and by its proximity let it bathe the ovaries, and obtain a soothing action against the inflamed parts The subject, as before stated, should be looked at from the standpoint of the general public rather than the surgeon's chasing after pus tubes In conclusion, he would state that when gonorrhea is treated in the female do not treat the vagina, but the cervix, the vaginal douche is absolutely useless as a curative measure He has the record of one case of gonorrhea of the mouth, but the mouth with its seventeen different kinds of bacteria is practically proof against the infection by the gonococcus It is the exceptions which prove the rule Introduce the speculum, cleanse the vagina well, disinfect the exposed surfaces, in old cases curette the cervix, then apply the medication, but if the cervix is lacerated use nitrate of silver and burn thoroughly Introduce an antiseptic tampon to absorb the discharges, which should be withdrawn at the office, and always treat the cervical canal instead of the vagina

The youngest case of gonorrhea which Dr Palmer had seen was 3 years of age Twelve years ago a man gave his pregnant wife gonorrhea, the child was born and developed a gonorrheal ophthalmia The grandmother went blind from gonorrheal ophthalmia developed from the child, and two sisters, 3 and 5 years old developed gonorrheal vaginitis from the same case

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A CASE OF HYPERTROPHY OF MAMMARY GLANDS

COMBINED WEIGHT FIFTY-TWO POUNDS—EXCISION—RECOVERY

BY JOHN B HAMILTON, M D

CHICAGO

July 19, 1894, Mrs P, of Lancaster, Wis, was brought to the Presbyterian Hospital by her physician, Dr F E Strong, of Lancaster, who gave me the following history

"Mrs P, age 32, had ordinarily good health up to the time of her marriage eight years ago Began to menstruate at usual time At 12 years of age had scarlet fever, and when 16 began to have slight irregular pains in both mammary glands During her first pregnancy when six months advanced, the breasts began to enlarge and became painful At this time she was very sick with malarial fever and remained so until eight months, when twins were born Two weeks afterward breasts had resumed their natural size During second pregnancy they began to enlarge at second month, but did not attain their former size The child was born at term and nursed from the nipple, which the first did not do In fall of 1893, just before her third pregnancy, the breasts began to enlarge a third time She grew weak and an abortion followed at five months, the breasts did not diminish in size, but increased until she came to the hospital The right breast measured forty-two inches in circumference at the nipple and the left thirty-nine The right breast measured thirty inches around the pedicle and the left twenty-seven The right breast measured fourteen inches from the nipple to the pedicle, and the left thirteen and one-half She was unable to walk without assistance owing to the great weight and bulk of the breasts The drawings herewith from a photograph, show the appearance of the breasts

The enormously enlarged veins, the great size of the tumor and the history of former cases, made operation an object of some solicitude on account of the danger of hemorrhage The first operation was done in the clinical amphitheater of Rush Medical College, July 21, 1894 I had a couple of long skewer pins made and thrust them through the pedicle I then cast a stout rubber cord between the pins and the chest, and drew them tightly but separately from each side The breast was then removed by cutting two flaps of skin from the tumor, reflecting them respectively upward and downward, and enucleating the gland, the vessels were secured without difficulty The hemorrhage was considerable, but it was almost entirely from the blood remaining in the gland, as the constriction had prevented arterial hemorrhage The great bulk of the gland prevented the emptying of the blood vessels by compression, although something was done in that direction by elevating the breast while the patient was in recumbent position The measurement after removal was thirty-nine and one-half inches in circumference, from nipple to pedicle fourteen inches, and around pedicle thirty inches Its weight was twenty seven and one-half pounds On section, the tissues were a grayish-white color, normal in structure

Dr F W Miller, Interne at the Presbyterian Hospital, made the microscopic examination, and the following report

"The histologic elements may be considered under two headings, viz

"1 Parenchyma elements which are seen as acini and ducts, sometimes greatly compressed so as not to be easily distinguishable In some the epithelial lining is distinctly columnar, and the lumen of the duct oblong, or large and spherical, in others the epithelial lining, consisting of two layers is made up of small pavement epithelial cells

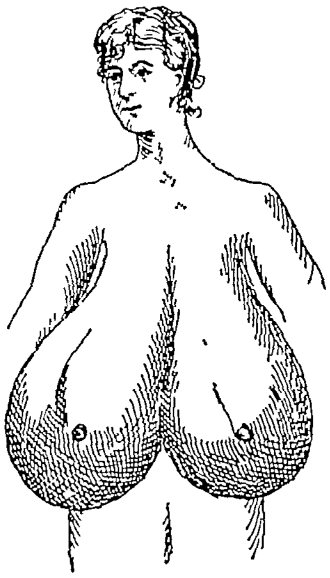

FIG 1—Hypertrophy of Mammary Glands Hamilton's case, 1894.

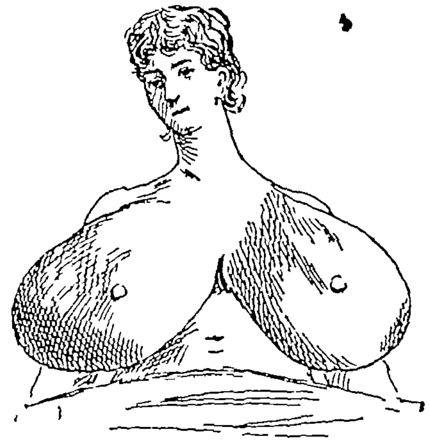

FIG 2—Hypertrophy of Mammary Glands Hamilton's case, 1894

"2 The connective tissue elements are in excess of the normal proportion, and consist of highly refractile non-nucleated fiber bundles, taking deep stain with eosin, these fibers interlace in all directions, fat cells are abundant but vessels lacking Diagnosis hypertrophy of mammary glands"

There was considerable shock, the patient was well stimulated, external heat applied and the foot ot the bed elevated, she rallied and the wound healed by primary union On August 11, the wound having healed and the patient being in good condition, the left breast was similarly removed in my clinic at Rush Medical College The breast had slightly increased in size, contrary to the statement sometimes made that when one breast is removed the other diminishes in size The operation was attended by no unusual incident and recovery was prompt

This diffuse form of hypertrophy of the mammary gland is extremely rare Williams[1] states that "while 2,122 cases of mammary neoplasms came consecutively under treatment at Middlesex, University College, Bartholomew's and St Thomas Hospitals, during a period of from sixteen to twenty one years, were seen only six cases of diffuse hypertrophy in the same period" The same author has collected notes of amputations done on sixteen patients, and only one death "This patient died twenty-two hours after the operation from collapse from excessive hemorrhage during the proceeding"

M Pierre Delbet[2] says "Known since the time of Galen, hypertrophy of the breasts is very rare in Velpeau did not observe more than five cases, in 1880 Billroth esteemed it a privilege to have encountered two examples, Labarraque, the author of altogether the best work on this subject, was not able to collect more than thirty-three observations, to which it is necessary to add the more recent cases of Benoit and Monteils (1877), of Monod (1881), Klippel (1887), Billroth (two cases), Barton, Richter, Schussler and Lihotsky"

In conclusion, it is to be mentioned that true hypertrophy (uncomplicated) is usually double, while the cases of hypertrophy of the male breast, described by Leudet (1886) and Blomfield (1886) as an occasional complication of phthisis pulmonalis were unilateral

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"THE RELATIONS OF MATTER AND MIND"

BY R E HAUGHTON, A D, M D

MIDLAND TEXAS

Formerly Professor of Surgical Pathology, Operative and Clinical Surgery in Central College Physicians and Surgeons Indianapolis, Ind Late Professor of Anatomy, Descriptive and Surgical, in Indiana Medical College and also Professor of Physiology and Demonstrative Physiology and Anatomy in College of Physicians and Surgeons, Indiana Member of American Medical Association State Medical Association of Texas Ex President of Indiana State Medical Association, Honorary Member of Ohio State Medical Association, etc

REVIEW

In reading the article with the above title to its close, I find in the last paragraph this remarkable statement in the form of an interrogatory, viz "Do not these converging testimonies focus the truth in the proposition, that the somatic mind of man is (clearly enough) the highest manifestation and legitimate sequence of the primal law of *matter* and *motion* expressed by the Creator in the beginning on the elements of the earth?" The author of this paper paper said in his Presidential address before the AMERICAN MEDICAL ASSOCIATION "The progress in medicine in the immediate future must be along biologic lines" So in accentuating this thought, I accept the position assumed as to the progress in medicine, but do not accept the final conclusion arrived at in the quotation in the paragraph alluded to It is to my mind the enunciation of the exploded idea of evolution, from lower to higher forms, and also involves the doctrine of the "survival of the fittest" It also from the standpoint of investigation ignores the fact of creative design and power in the beginning, in the realm of both matter and mind It is stated as a proposition by Sterling "That all organisms consist of the same life matter, which life matter is, for its part due to chemistry, must be pronounced untenable, nor less untenable the materialism founded upon it" The materialism in such a statement is seen when we strip the verbiage from the proposition and present it thus, viz That the mind of man is clearly enough the highest manifestation and legitimate sequence of the primal law of matter and motion upon the elements of earth Motion and matter in their interaction upon each other produce mind I think it is accepted as true that "like causes produce like results," and that no creature has been produced since the first dawn of creation without sufficient cause

The opinion that life is a mode or form of energy is one which is gaining an increasing number of adherents among scientific men Beale, "Protoplasm," page 102 "The idea that life exerts a power over matter—guiding or controlling its actions, having no relation to other forces," is an exploded one, and in this age of free thought and inquiry, ought to require no contradiction If we follow the lines of the school men they are divided into two classes, viz, vitalists and materialists, and there have been these two classes upon every phase of medical doctrine, as well as upon every other question Were we to give a more exact division or classification we should say men were divided into materialists and rationalists on the one hand and vitalists on the other

THE CREATION OF MATTER

Forces are the powers which are made to explain the phenomena of vitality It must have been true that the same forces which give form to a cell as found in a living body, must have been operative when the "worlds were made" These latter belong to the inorganic universe in which there is some unseen power or force which confers life or vitality True it is, one is microscopic and the others are macroscopic or telescopic, and yet of such vast and wondrous size that we are dumb with wonder and astonishment, and cast about in thought for the power which could create a system of worlds revolving around a common center with such harmony and exactitude Does it not anticipate the thought which is said, "clearly enough, to be the highest manifestation of and legitimate sequence of the operation of the final law of matter and motion impressed by the Creator in the beginning on the elements of earth?" I am glad he confesses that there is a Creator and that there was a beginning for creation, and this admission stamps out much that is material and irrational in this statement under review The great First Cause, least understood, is shadowed forth and comes at last upon the scene of the dawn of creation, walking in His majesty upon the wings of the wind, or manifesting Himself as the great I Am, when the rosy hues of the sun's living light first dawned upon the Creator's handiwork, and he said in tones of majesty and power "Let there be light, and there was light" Why was there light? Because the Infinite and Creative mind had made the sun and hung it out in light and majesty and power, giving heat and warmth and power to the entire cosmic scene Which was first? The Creative mind and its fiat, or the worlds? By whose hand were they made, and "without which there was nothing made that was made " Here then we prove that mind, and it matters not as to the fact of the somatic mind of man or the Infinite mind, we thus prove that priority of existence *belongs to mind*, and that a Divine mind or Creative mind and if so, then according to the law laid down that "like begets like," and like causes produce like results, we have the fact of mind from mind, a Creative mind and a created mind again in the process of creation

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[1] A monograph on diseases of the breast, London, 1894, p 82

[2] Traité de Chirurgie par Duplay et Reclus, t VI, Art Mamelle, p 180

We are told "man was made from the dust of the earth," and God "breathed into his nostrils the breath of life and man became a living soul " Therefore, "when one attempts the analysis of the relation of matter and mind, by any study of it as it exists in the human adult one fails of success most signally " Because it is not given to men to comprehend infinite questions How did man become a living soul? By a creative energy, and this is one of the forces of the material universe which has operated upon man ever since and before he had breathed into him the breath of life

We shall not attempt a review of the processes of the school men in all ages to fathom the processes of human life, or indeed any other manifestation of life Not even the "modern scientific methods of involved problems " Yet our former neighbor and confrére says "We must devote ourselves to seeking the simplest form in which the relations of mind and matter exhibits itself and following its development, step by step in its ascending scale until it reaches its maximum in enlightened man " In this question as just stated, I would begin at the reverse end of the scale and passing from higher to lower forms would reach the ultimate limits of the scale in protoplasm conformed to cells, and their almost infinite multiplication as we study their relations in tissues, blood, etc , performing function in all its varieties and uses, with the same system, the same regularity, the same precision as is found to control the globes or cells of more immense and infinite perfections, in what is known as the planetary system Here is law and order operating in control upon matter, *thus* revealing the Infinite Intelligence as well as the power which fashioned them by the operation of will, which is known to be the supreme faculty of mind in the inferior orders of creation, dominating the powers of mind as possessed in reason, judgment, affection, etc , so as to accomplish the highest happiness of the individual, when conformed to it

IN THE BEGINNING

Genesis is simply the beginning, and we are told that "in the beginning God created the heavens and the earth, and the earth was without form and void, and darkness was upon the face of the deep, and the Spirit of God moved upon the face of the waters and God said, Let there be light and there was light " Hence we find in these statements of the book of the beginning (Genesis) the cytogenesis, the morphology, the histology, the anatomy and the physiology of creation in its beginnings (whenever that was), and it does not matter whether it was chronologically 6,000 years, or whether it was according to some data of so-called geologic ages as expressed by Sir Charles Lyell, 35,000 or 50,000 years of our time It is not so much a question of time as of mind and power or force in the higher planes of creation , the same law of design, power and creation runs through the entire series In this historical but brief résumé, the relations of mind and matter are presented to the thoughtful and investigating individual who begins at the top of the scale to comprehend the author, and any *attributes which such* author may be supposed to possess, and as we must reason, we reason in two directions , from God himself as shown in his works, to his attributes, and when we fail in this direction to comprehend any attributes we look into our own, and thus rising from lower planes and mental characteristics we reach the law that "like produces its like," and thus in form and attribute, as the poet expresses it in his graphic description of man He says "In form and moving how express and admirable , in character how like a God " So, too, in the type and forms (cellular) in cytogenesis we see the same admirable and undeviating law that "like produces its like," except when some indefinable and inadvertent influence so operates as to divert the original type into some other form or type which is abnormal to the original type and is not or can not be found in any healthy or normal organism This may be said to be heterogeneous formation and is the result of some rule or law of morbid production not known in the original type For illustration If we take any form of cancer and examine cellular forms we do not find the original type of structure, but some deviation of form and type which is known to us as cancerous formation, varying as the cell forms indicate, so that diagnosis and pathology go hand in hand

GROWTH.

Growth of an organic body involves the question of nutrition, and "nutrition involves the conversion of lifeless pabulum into living germinal matter and comprises several successive steps " (Beale, "Protoplasm," page 102)

"1 The contact of the soluble pabulum with germinal matter

"2 The separation of the elements of the nutrient substance from the state of combination as pabulum

"3 The new rearrangement of the elements, and conversion of these into new germinal matter

"Finally, nutrition, which means growth, is impossible unless living germinal matter be present, and in every case in which it is known to occur new germinal matter is produced " Hence nutrition is a vital process, a living process, and is positive evidence of vitality and no approach to it has ever been accomplished in the chemic laboratory or in processes which are so-called chemico-vital, and no human ingenuity will ever be able to duplicate the vital relations of living organisms operating under some unchangeable vital force which exists or presides in and over the "germinal matter," which continues under the operation of this force to produce its like, and thus sustain growth upon one side and "metabolism" upon the other, as here are the two sides of life

VITALITY

Embodied in the term, "germinal matter," it is probable we find the secret of nature's arcana, and the life force is impressed upon it in some such way as the "Spirit of God moved upon the waters," and also when it was said "Let there be light and there was light " Matter then had been created, and the operative and effective force which was directing the changes upon the void of the great cosmos was the same intelligent mind and force which has directed the operations of the physical world ever since, no matter what the period of time may have been So we establish a relation of mind and spirit with the material and spiritual of the universe in which and of which we are a part It matters but little to the philosopher except he be an evolutionist, or to the scientific physician or scholar except he be a doubter, what particular changes he observes in the modes of mind and force if he but remember,

"One universal purpose through all the ages runs"

And thus on such a basis no cataclysmic results can be found in the realm of mind or matter There are no results which are not worked out in harmony with divine law and purpose and no

"Eagle's eye or scent of prey,"

but is the result of adaptation and purpose, and hence the biologic result of cells in the construction of the eye and the nerves, with their acute sensibility Like the bloodhound, which, amid all the traces of others than the one sought, will rapidly follow the right one, without mistake, to the end Why is it so? First there is the original purpose in the germinal matter, and through cultivation and education the sense and faculty reached its ultimatum in astonishing acuity So it may be said in the sphere of mind on its cultivation on one subject of thought or practice or another One becomes a wonderful accountant, and can cast up several columns of figures, and yet can not explain how it is done So, too, in the musical and poetical world, men and women reach marvelous power and compass in voice, and produce those wonderful instrumental accompaniments of voice, which hold you entranced and bewildered, yet it is by study and practice with the nerve and muscle, one controlling the other in the mechanical execution, yet were it not for the power of assimilation in the germinal cell and membrane, where were the art and practice of music, poetry and song? Where were the touches of Raphael?

CONCLUSION

So we rise in the scale of being, and effort is God's method for this moral and spiritual progress, even up to the idea of a final salvation at the end of a probationary race, to enter into a higher and more spiritual realm which is seen by the eye of faith, "for eye hath not seen nor ear heard the things" nor hath it entered into the heart of man to conceive the things which God has in reservation for those who shall be assimilated to himself in such manner as is presented in the thought of the Bible "The fatherhood of God and the sonship and brotherhood of the race" This is to my mind the highest evolution of the race, and such an one as he is controlling and directing, not only in this physical universe for man's benefit and development, but will continue it in the future progress and development of such as shall catch the divine purpose, "which through the ceaseless ages runs," in earth and heaven For these are but parts of the scheme and plan of a divine evolution (mind for material and material for mind) under all the peculiar relations which can or will occur in the evolutionary series The series here is one in which creative power has had a hand, from the monad to the elephant, from the first cell which originated a human form, to the highest and most intelligent archangel before the throne of God, or may be found in the lowest or most depraved in the pit of perdition, mind has had to do with matter up to the point and process of translation, when matter drops off by the refining process, and we become like gods, knowing good and departing from evil This is spiritual evolution, and is also accomplished by the purpose and will of God, operating upon human minds and wills until his purpose be accomplished, either in blessing, or if we will not, in cursing or malediction, or perdition

Submitted, with no disposition to discussion on the subject, but to put the other side of the question

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1851-1891

BY JOSEPH JONES M D, LL D

NEW ORLEANS LA

(Continued from page 21)

CHAPTER VI

Case [illegible] —Double pneumonia, bloody sputa, recovery Robert Hanley, Irishman came to America in 18[illegible] and has been living in New Orleans since 18[illegible] Weighs 1[illegible]0 pounds, florid complexion, light hair and blue eyes On Jan 6 1877, while working in the hold of a ship, which was very close and hot, was thrown into a great heat and profuse perspiration Being called suddenly he left the ship without his coat (his shirt being saturated with perspiration), went on shore and was exposed to a cold wind and in a few minutes was seized with a severe pain in the left side below the seventh rib The pain continued to increase on the seventh and eighth, and upon the last day he began to cough and to expectorate thick bright red sputa Could not lie on the right side in consequence of the pain and oppression of breathing On the tenth, eleventh and twelfth the pain and oppression of breathing increased and was attended with high fever Admitted to Charity Hospital January 12 January 13 A M, tongue red at tip and edges and furred in the center, sputa thick, brownish red and streaked with bright blood high fever, anemia, restless Respiration labored and attended with sharp pain greatest over region of middle and lower lobes of left lung Face flushed Skin bathed in hot perspiration Upon percussion, dullness amounting to almost complete flatness over middle and lower lobe of left lung and over lower lobe of right lung Auscultation revealed tubular breathing and crepitant râles upon full inspiration over the regions indicated The patient was placed upon 2 grains each of quinin and Dover's powder every three hours, and five drops of the tincture of yellow Jessamine every two hours Turpentine stupes were applied over the affected portions of both lungs, milk punch and beef tea ordered in small quantities at regular intervals of two hours This treatment was continued for several days and the bowels were opened when necessary by the ordinary efferverscing powders On the 20th there was a marked improvement and the chlorids which had been absent reappeared in the urine and the sputa contained much less blood Convalescence continued and on the 25th the patient was able to walk about the ward He was finally restored to health, although he was allowed to remain in the ward for four weeks, until his strength was fully restored The following table presents the relations of the pulse, respiration and temperature

Date 1877	Pulse M	Pulse E	Resp M	Resp E	Temp M	Temp E
Jan 13	100	118	42	40	101 5°	103 2°
" 14	114	104	41	41	103	101 5
" 15	90	100	36	38	101	101
" 16	86	87	30	37	100	101 5
" 17	88	89	36	37	100	99
" 18	72	76	20	32	97	97
" 19	68	67	28	32	98	98 8
" 20	96	65	33	28	98 3	98 3
" 21	94		33		98 5	
" 22		72		24		97
" 23	61	62	22	26	97	97 8
" 24	65	60	22	20	97 5	98
" 25	60		20		97	
" 26	82		24		98 5	

Case 9 —Pneumonia, middle and lower lobes of left lung involved John Dugan, age 21, native of New Orleans, longshoreman Has enjoyed good health up to July, 1876, when he suffered with chills and fever On Dec 15, 1876, admitted to Charity Hospital with pneumonia and was discharged Jan 6, 1877 February 21, seized with severe chill, attended with cough, high fever and severe pain in left side Admitted to Charity Hospital February 25, high fever, rapid pulse and respiration, tongue red at tip and edges and furred in center, middle and lower lobes of left lung dull upon percussion, with tubular breathing and crepitant râles, chlorids absent from urine, sputa thick and rusty colored The treatment was similar to that instituted in the preceding case, namely, quinin and Dover's powder, tincture of yellow jessamine, turpentine stupes, milk punch and beef tea The results were favorable February 27, oppression of breathing and pain in left side diminished, February 28, free from pain, although left side still dull upon percussion, sputa still mixed with blood, small quantity of chlorids in urine Continued to improve up to March 3, the expectoration being quite copious, with progressive diminution of dullness, reappearance of crepitant, subcrepitant and mucous râles over the affected portions of the left lung March 3, the temperature and pulse were normal and patient able to sit up with good appetite Recovery rapid and complete The following observations were recorded

Date	Pulse		Resp		Temp	
1877	M	E	M	E	M	E
Feb 26	120	108	40	36	103 °	102 °
" 27	94	105	28	44	99	101
" 28	80	86	28	87	98	101
Mch 1	78	77	26	28	98 2	99
" 2	72	76	22	28	98	98 2
" 3	72	73	24	24	98	98 2

It is evident that in the preceding cases of pneumonia, the combined use of quinin, Dover's powder and tincture of yellow jessamine reduced the frequency of the pulse, diminished the temperature and promoted the arrest and resolution of the pneumonic inflammation

Case 10 —Pneumonia of right lung, engrafted on malarial fever John C Keller, age 24 years, admitted to Charity Hospital Feb 4, 1874 Occupation, clerk Seized with a severe chill January 30, followed by high fever Middle lobe of right lung in second stage of pneumonic inflammation, lower lobe of left lung in similar condition February 4, evening temperature of axilla 104 8 degrees February 5, morning, respiration 36, pulse 126, temperature 103, evening temperature 105 Suffers from a painful cough and oppression of breathing, sleep disturbed, skin dry and hot, tongue red at tip and edges and coated heavily with yellow fur Sputa abundant and mixed with considerable quantities of blood February 6, morning, respiration 38, pulse 118, temperature 104 8, evening temperature 105 3 February 7, morning, respiration 39, pulse 128, temperature 104 1 This day the patient had a profuse hemorrhage from his lungs and his stools also contained blood The hemorrhage was attended with a marked depression of temperature, as is often the case in the black vomit (hemorrhage from the stomach) in yellow fever February 8, morning, respiration 37, pulse 121, temperature 103, evening temperature 101 5 February 9, morning, respiration 38, pulse 125, temperature 101 8, evening temperature 101 6 February 10, morning, respiration 34, pulse 108, temperature 101 2, evening temperature 103 2 February 11, morning, respiration 34, pulse 104, temperature 102, evening temperature 102 6 February 12, respiration 30, pulse 101, temperature 101 5, evening temperature 101 3 *February 13, morning, respiration* 32, pulse 120, temperature 100, evening temperature 102 February 14, respiration 32, pulse 96, temperature 100 February 15, morning temperature 98 9, evening, 100 8 The patient continued to improve and was discharged March 3

It is worthy of note that in this case of pneumonia, hemorrhage from the lungs was attended, as in cases of hemorrhage from the stomach and bowels in yellow fever, with a decided reduction of temperature, and also that the loss of blood from the lungs in this case appeared to be productive of good and to mark the period of convalescence

Case 11 —Pleuro-pneumonia, solidification of entire lung, death I D, age 28, entered Charity Hospital Feb 19, 1874 February 20, morning, respiration 36, pulse 108, temperature 102, evening temperature 102 7 February 21, respiration 26, pulse 95, temperature 103 February 22, respiration 39, pulse 104, temperature 102 7 February 23, respiration 39, pulse 115, temperature 103 5 February 24, respiration 40, pulse 120, temperature 102 5 February 25, respiration 38, pulse 114, temperature 97 This patient died on the night of the 25th Entire right lung solidified, as shown by post-mortem examination Great capillary congestion before death

Case 12 —Abscess of lungs, following double pneumonia A R, age 26, admitted into Charity Hospital with pneumonia (double) Nov 20, 1873 During the active stages of the pneumonic inflammation the temperature of the axilla reached 109 degrees F, the pulse ranged from 100 to 130, and the respiration from 50 to 58 per minute A large portion of the right lung passed into the stage of solidification and gray hepatization, and a large cavity formed in the *middle lobe of the right lung, the patient was not restored* to health until the end of four months During the period in which these changes were taking place in the lungs, daily observations were made upon the pulse, respiration and temperature, numbering over seven hundred During a period of one hundred and twenty days, while structural alterations were taking place in the lungs the pulse ranged from 80 to 130, the respiration from 22 to 40, and the temperature of the axilla in the morning from 99 to 102 degrees F, and in the evening from 100 to 104 degrees F

Case 13 —Pneumonia engrafted on malarial fever P W, age 33, entered Charity Hospital Dec 11, 1873 Had suffered with chills and fever for one week before entering the hospital Lower lobes of both lungs involved on the 12th During fourteen days the active stages of the disease, the morning temperatures ranged from 101·6 to 105 degrees, and the evening temperatures from 103 to 106 degrees On the fifteenth day there was a distinct remission of the fever, which rose again on the seventeenth day, declined on the eighteenth to twenty-fourth days On the twenty-fifth, the temperature again rose, apparently from the supervention of a fresh paroxysm and the involvement of other portions of the pulmonary tissues in the pneumonic inflammation In this which was the last paroxysm and followed by convalescence the axillary temperature reached 104 degrees The pulse in this case ranged from 72 to 120, and the respiration from 24 to 40 per minute

Case 14 —Double pneumonia Michael Castello, age 30, entered Charity Hospital Jan 13, 1874 Had chills and fever two days before entering hospital January 15, delirious Region of left lung dull upon percussion, with crepitant and subcrepitant râles Lower lobe of right lung dull upon percussion with crepitant râles, oppressed breathing with severe cutting pains Tongue red at tip and edges and coated with yellowish fur in center Urine high colored, specific gravity 1022, strong acid reaction, and mere trace of chlorids, no albumen Morning, pulse 120, respiration 25, temperature 105 2 degrees, evening, temperature 105 degrees January 16, delirious, increased dullness over left lung and lower lobe of right lung with tubular breathing, bronchophony and increased vocal resonance Specific gravity of urine 1025, high colored, strong acid reaction, absence of chlorids, no albumen Morning, pulse 114, respiration 32, temperature 104 degrees, evening, temperature 105 degrees January 17, morning, pulse 114, respiration 32, temperature 104 degrees, evening, 104 2 Trace of chlorids in urine January 18 morning, pulse 124, respiration 40, temperature 103 5 degrees, evening, temperature 103 5 degrees Trace of chlorids in urine January 19, morning, pulse 114, respiration 32 temperature 101 5 degrees Trace of chlorids in urin There has been a marked decline of temperature, the pulse and respiration are also less frequent, and the delirium is disappearing January 20, morning, pulse 98, respiration 26, temperature 99 5, evening temperature 100 6 degrees While the physical signs show no marked change, the urine shows a marked increase of the chlorids, the temperature has declined and the circulation and respiration are slower and more natural The delirium has disappeared and the patient shows signs of marked improvement January 21, continues to improve Morning, pulse 84, respiration 28, temperature 98 5, evening, 99 8 Chlorids increasing in urine January 22, morning, pulse 80, respiration 24, temperature 98 4 January 23, continues to improve, the air is again entering the solidified portions of the lungs and there is a great increase of the chlorids in the urine Morning, pulse 66, respiration 24, temperature 97 5, evening, temperature 99 2 January 24, pulse 70, respiration 20, temperature 99 2, evening, temperature 100 3 Specific gravity of urine 1022 Chlorids abundant January 25, morning, pulse 74, respiration 22, temperature 98 4, evening, temperature 99 6 January 26, morning, pulse 72, respiration 20, temperature 98, evening, 98 7 January 27, morning, pulse 76, respiration 20, temperature 98 4, evening, temperature 101 1 Continued to improve and on the 28th was able to dress and come down to amphitheater

Case 15—Pleuro pneumonia of left lung, recovery J Winans, age 30, native of Ohio, on the trip from St Louis to New Orleans was seized with severe chill followed by iarrhea and pain in left side Entered Charity Hospital, ard 27, Jan 3, 1874 Face flushed, frequent and painful ough, rusty colored pneumonic sputa dullness over lower ortion of left lung, bronchophony, bronchial respiration, in reased local fremitus, vesicular murmur heard only in lavicular region of left lung, some pleuritic pain in left ide, hot dry skin, dry red tongue, thirsty, loss of appetite and estlessness Morning pulse 110, respiration 28, temperature 104 The treatment which I described at length in the rticle on Pneumonia," vol i 'Medical and Surgical Memirs," was instituted Three and a half grains each of uinin and Dover's powder were administered every four ours, and 4 drops of the tincture of veratrum virid, every our hours, alternating with the powders of quinin and pecac et opii, turpentine stupes applied over region of ffected lungs Beef tea and milk punch freely administered Mere trace of chlorids in urine January 4, morning, pulse 04, respiration 28, temperature 102 The quinin and Dover's powders and veratrum appear to have effected a decided reduction in the temperature, although patient is restless and anxious, and complains of some pain in the left side January 5, morning, pulse 80, temperature 100 4 respiration 28 No chlorids in urine, specific gravity 1015, strong acid reaction, bowels moved, no albumen in urine Evening, temperature 100.2 January 6, temperature still depressed, trace of chlorids in urine, substituted tincture of yellow jessamine 10 drops every four hours for the tincture of veratrum Morning, pulse 94, respiration 32, temperature 102 5 Evening, temperature 105 5 January 7, left lung completely solidified, sputa abundant and rusty colored Morning, pulse 112, respiration 32, temperature 104 4 Evening, temperature 103 5 January 8, pulse 100, respiration 36 temperature 102 5 Evening, temperature, 103 5 January 9, morning, pulse 104, respiration 30, temperature 100 2 Evening, temperature 102 January 10, pulse 80 respiration 26, temperature 98 9 Evening, temperature 99 January 11 morning, pulse 80, respiration 26, temperature 98.2 Evening, temperature, 99 Chlorids reappear in urine, specific gravity 1018, no albumen has appeared in the urine up to the present time January 12, morning, pulse 78, respiration 26, temperature 98 5 Evening, temperature 98 8 On this day chlorids reappeared in the urine continued to improve and was discharged cured

Case 16—Pneumonia Michael Burk, age 22, native of Germany, laborer Entered Charity Hospital Jan 12, 1874 Was taken with a chill followed by a high and continued fever four days before entering the hospital January 13, great pain in left side, hot dry skin, dullness over left lung, bronchophony and increased local fremitus with tubular breathing Morning, pulse 120, respiration 52, temperature 101 3 January 14 patient complains of great pain in left side and lower portion of right lung, which is dull upon percussion, rusty colored sputa Morning, pulse 118, respiration 50, temperature 104 5 Quinin and Dover's powder, three grains of each every three hours administered internally Tablespoonful of officinal solution of acetate of ammonia every four hours Turpentine stupes to chest Beef tea and milk punch January 15, rested badly during night, delirious, tubular breathing and dullness upon percussion over left lung, dullness upon percussion over lower portion of right lung Morning, pulse 112, respiration 56, temperature 102 January 16, very restless, delirious, physical signs the same, absence of chlorids in urine, no albumen in urine Morning, pulse 104, respiration 48, temperature 102 6 January 17, delirious, necessary to confine patient to the bed, no chlorids in the urine, trace of albumen in urine Morning, pulse 124 respiration 64, temperature 103 5 January 18, wild delirium, was held in bed all night by nurses, albumen in abundance in urine but no chlorids Morning, pulse 120, respiration 64, temperature 103 5 Evening, temperature 105 January 18, patient more quiet, albumen not so abundant in urine, chlorids absent Morning, pulse 132, respiration 62, temperature 104 Evening 104 3 January 20, patient in semi conscious state, traces of albumen in urine, no chlorids Morning, pulse 112 respiration 64, temperature 103 Evening 101 5 Alcoholic stimulants have been freely given January 21 no delirium, rested well during the night, some appetite, albumen disappearing from the urine, chlorids returning, expectoration more free Morning, pulse, 90, respiration 36, temperature 101 0 Evening, temperature 102 Convalescence was slow in this case The patient sat up for the first time about February 2 The temperature remained elevated until February 10, it reached 103 on this and for a period of twenty two days, from January 21 to February 10 ranged in the morning from 101 to 103, and in the evening from 101 to 104 Pulse from 90 to 110 and respiration from 32 to 58 per minute Recovery tedious but satisfactory

Case 17—Double pneumonia, death Peter Wonts, age 27 Entered Charity Hospital Dec 18, 1874, pneumonic inflammation of lower lobes of both lungs, great oppression in breathing, purple lips and extremities, delirium The morning temperatures ranged from 97 5 to 102, and the evening temperatures from 100 to 105 5 pulse from 98 to 120, respiration from 25 to 35 This patient died on the tenth day after entering the hospital

Case 18—Pleuritis F Lynch, age 21, native of Ireland entered Charity Hospital Dec 20, 1873 Had been treated in this institution two weeks before, for intermittent fever December 20, evening Intense pain in right side, dullness upon percussion of right lung with friction pleuritic sounds in respiration Pulse 130, respiration 25, temperature, axilla 105 December 21 Pain in side intense, morning pulse 77, respiration 23, temperature 101 Evening pulse 110, respiration 23, temperature 106 The patient has been treated with quinin and Dover's powders, 3½ grs of last every three hours, and turpentine stupes to chest these measures appeared to be beneficial and to rapidly reduce the temperature December 22 Morning, pulse 76, respiration 30, temperature 99, evening, pulse 80 respiration 30, temperature 100 At 3 P M on the preceding day the patient had a severe chill followed by high fever in which the temperature reached 106 A large plaster was applied to the side, quinin freely administered with beneficial results as stated December 23, slept better during the night improving, pain in side much relieved Morning pulse 72 respiration 25, temperature 99, evening, pulse 80, respiration 25, temperature 101 December 24 Morning, pulse 86, respiration 32, temperature 100, evening pulse 82, respiration 30, temperature 102 December 25 Morning pulse 75, respiration 28, temperature 99 5, evening, pulse 83, respiration 30, temperature 101 December 26 Morning, pulse 70, respiration 20, temperature 99, evening, pulse 75 respiration 24, temperature 100 The patient continued to improve and was discharged in a few days after this observation

Case 19—Pneumonia Supervening on malarial fever, cured N T, aged 24, entered Charity Hospital Jan 6, 1874 Arrived in New Orleans in destitute condition and slept on levee nights and January 5 had a violent chill followed by congestion of lower lobes of both lungs and high temperature, 106 2, pulse 120, respiration 38 Under the action of the quinin and Dover's powders, rapid reduction of temperature and improvement of symptoms

Case 20—Typhoid fever T P, entered Charity Hospital Jan 11, 1874, rapid pulse, high temperature, great nervous prostration, muttering delirium During a period of thirty-two days the, temperature oscillated between 99 and 106 The temperature in the morning varied from 1 to 7 degrees lower than the evening temperature On January 12, (second day after entrance) the morning temperature was 104 and the evening temperature 105 On January 23 the morning temperature was 99 and the evening 106, on the 28th morning temperature 100, evening 103, the 30th, morning temperature 102, evening 105 The pulse ranged from 90 to 110, respiration from 30 to 56

Case 21—Typhoid fever H F, age 27 Entered Charity Hospital November 29, high fever continued from November 29 to December 21 The range of the temperature and pulse are as follows November 29, evening, pulse 102, temperature 105 30th, morning, pulse 86, temperature 103, evening pulse 94, temperature 105 December 1, morning, pulse 82, temperature 103, evening, pulse 90, temperature 105 2d, morning, pulse 80, temperature 103, evening pulse 82 temperature 103 5 3d, morning, pulse 86, temperature 103 5, evening, pulse 90 temperature 104 5 4th, morning, pulse 90, temperature 103, evening, pulse 86, temperature 104 5 5th, morning, pulse 82, temperature 101, evening, pulse 88, temperature 103 4 6th, morning, pulse 80, temperature 101, evening, pulse 88, temperature 103 7th, morning, pulse 100, temperature 104, evening, pulse 94 temperature 104 8th, morning, pulse 82, temperature 99, evening, pulse

104, temperature 105 9th, morning, pulse 90, temperature 112 5, evening, pulse 88, temperature 104 10th, morning, pulse 82, temperature 100 5, evening, pulse 104, temperature 104 11th, morning, pulse 90, temperature 100 5, evening, pulse 88, temperature 104 5 12th, morning, pulse 108, temperature 100, evening, pulse 94, temperature 104 13th, morning, pulse 86, temperature 103, evening, pulse 80, temperature 101 14th, morning, pulse 84, temperature 100, evening, pulse 80, temperature 100 15th, morning, pulse 80, temperature 99 5, evening, pulse 80, temperature 100 3 16th, morning, pulse 90, temperature 98 8, evening, pulse 80, temperature 100 2 17th, morning, pulse 86, temperature 98 5, evening, pulse 80, temperature 100 18th, morning, pulse 80, temperature 99 5, evening, pulse 120, temperature 103 6 19th, morning, pulse 110, temperature 102, evening, pulse 100, temperature 103 20th, morning, pulse 96, temperature 101 5, evening, pulse 92, temperature 100 5 After this date the temperature gradually descended to the normal state and the bowels became constipated

Case 22—Typhoid fever John Martin, age 24, entered Charity Hospital November 21 In this case the diarrhea and fever continued for a period of forty-four days The morning temperature ranged during this period between 98 and 105, and the evening temperature between 98 5 and 105 degrees F The pulse ranged from 70 to 120, the respirations from 24 to 34 per minute

Case 23—Albuminuria and malarial fever J P Banem, age 30, admitted to Charity Hospital Jan 20, 1874 Has been living on the banks of the Mississippi River, where he contracted intermittent fever, from which he has suffered during the past three months The condition of the patient is as follows Great anemia, tongue swollen, indented by the teeth along the edges pale, flabby and tremulous, complexion sallow and of a waxlike greenish tinge, features swollen, abdomen distended with fluid, lower extremities swollen, complains of headache and dullness of intellect, urine high colored and scant, and loaded with albumen This patient was kept under observation for about three months (ninety days), and at various periods the urine contained blood corpuscles in addition to the albumen and urinary casts The treatment consisted mainly in keeping the bowels open by means of saline purgatives, the occasional use of quinin for several consecutive days, and the administration of diuretics and alteratives, among which may be mentioned iodid of potassium combined with wine of colchicum and syrup of squills The strength was maintained by nutritious diet and the preparations of iron Under these measures the improvement was gradual and decided, the dropsical effusion disappeared and the patient was discharged at his own request in April

In this case the action of the heart was quick and irritable, no valvular disease, however, was detected Edema of the lungs was a troublesome symptom The pulse was rapid and irritable, varying from 100 to 130, the respiration was often embarrassed and ranged from 20 to 30, the temperature in the morning ranged from 97 5 to 100, and in the evening from 99 to 101 This case appears to have been dependent to a great extent upon the action of malaria

Case 24—Constitutional syphilis R N W, age 49½ years Entered Charity Hospital Dec 12 1873 Contracted syphilis in 1866, suffers with severe pains in the extremities and head which increase greatly during the night and destroy his rest December 17 morning, temperature 99 6, pulse 80, respiration 20, evening, temperature 100 6 18th, morning, temperature 98 5, pulse 80, respiration 18, evening, temperature 100 19th, morning, temperature 98 5, pulse 96, respiration 24, evening, temperature 100 The observations upon the temperature and pulse were continued for a considerable length of time, and the former ranged from 98 Fah in the morning to 101 in the evening and the latter from 80 to 100

Case 25—Cirrhosis of liver, ascites, dysentery and diarrhea T G, age 50, native of Cincinnati, Ohio Entered Charity Hospital March 4, 1874 Has been a hard drinker for twenty two years Had malarial fever in July, 1873 Has lost flesh, his weight decreasing from 154 to 123 pounds Abdomen distended with liquid, lower extremities edematous, bowels very loose In this case the temperature in the axilla varied in the morning from 98 5 Fah to 99 5, and in the evening from 99 to 100 5, the pulse varied from 70 to 90 per minute

Case 26—Aneurysm of the arch and descending portions of the aorta L D, age 43, native of Ireland, has lived in America twenty years, served in the Confederate Army about twelve months Laborer Entered Charity Hospital March 4, 1874 States that about one month before entering the hospital, while rolling a bale of cotton, felt a sudden pain in the abdominal region and upon examination found a small tumor which has been steadily increasing from that date, and at times interferes with his respiration The second sound of the heart is accompanied by a distinct aortic murmur and the pulse is irregular and at times dicrotic The temperature in this case ranged from 98 4 Fah to 101 3, and the pulse from 80 to 90

Case 27—Aneurysm of arch of aorta and phthisis pulmonalis Nicholas Batterton, age 33 years Admitted into Charity Hospital Dec 1, 1873 Patient says that he has been sick for one year and that the disease began with pneumonia His brother died with phthisis After the attack of pneumonia, suffered with a troublesome cough, and has had hemorrhage from the lungs seven times The arch of the aorta is dilated and the tumor is evident in the supra clavicular region, where the pulsation can be seen and also readily felt When the fingers are pressed above the superior border of the sternum, downward and backward, the round pulsating contour of the aneurysm is distinctly felt Observations were continued in this case, for one hundred and twenty days, and during this period the pulse varied from 60 to 100, the respiration from 30 to 40 per minute, the temperature in the morning from 99 to 101, and in the evening from 100 3 to 103 5 Auscultation revealed a distinct diastolic mitral murmur, propagated along ascending aorta and along the arch Upon cod-liver oil and syrup of the hypophosphites, this patient continued much in the same state, until the winter of 1874, when the emaciation became more rapid and the patient died Nov 2, 1874 Death in this case was in no manner attributable to the aneurysm of the aorta

Case 28—Abscess of thigh and extensive bed sores resulting from yellow fever E Scheiss, age 37, native of Germany Entered Charity Hospital Oct 29, 1873 Had been sick with yellow fever several days before entrance Attack severe attended with high fever, vomiting and intense jaundice During the period of convalescence and calm, a swelling was observed in left leg which greatly increased From the confinement and also from the deranged state of the fluids caused by the yellow fever poison, large bed sores formed upon sacrum and hips A large abscess of the thigh was opened Patient died from exhaustion induced by hectic fever February 24 During 140 days following the active stage of the yellow fever the temperature ranged from 100 to 105 2, the evening temperature ranged from 101 5 to 105 2 The pulse varied from 100 to 140 and the respiration from 24 to 34

Case 29—Mitral regurgitation, hypertrophy and dilatation of heart, and Bright's disease R Manez, age 36 Admitted to Charity Hospital Jan 29, 1874 Had yellow fever in 1854 and 1858, contracted syphilis in 1864, suffered with rheumatism in 1869, malarial fever in 1871 on Red River In August, 1873, feet began to swell, the liver was enlarged and the action of the heart irregular Urine loaded with albumen Owing to the obstruction to the circulation the patient suffered with the symptoms of edema of the lungs, accompanied with bloody expectoration, ascites and anasarca In this case the pulse varied from 52 to 120, respiration from 20 to 28 temperature from 98 to 102 2 The temperature attained the highest point in the evening of February 5 The reduction of the pulse to 52 beats per minute was due to the action of digitalis

A comparison of the results recorded illustrating the changes of the pulse, respiration and temperature in various diseases with those of yellow fever, establishes the following conclusions

1 Yellow fever is a distinct specific disease

2 Yellow fever is distinguished from other diseases by the frequency of the occurrence of black vomit and jaundice, and the progressive diminution of the frequency of the pulse after the establishment of the maximum temperature, also the want of correspondence observed in many cases between the rapidity of the respiration and the action of the heart

3 As a general rule in acute diseases, the rapidity of the action of the heart corresponds with the rapidity of the respiration, but in some cases of yellow fever in which the respiration is increased fourfold, the pulse actually beats less rapidly than in health

4 Yellow fever is a continued form of a single aroxysm, in which a powerful depressing effect is vinced upon the action of the heart The cause f the depressed action of the heart will be discussed n the following chapter relating to the changes of he blood

5 If the thermometric changes of yellow fever be rojected as in the form of charts and if a comparison be instituted with the thermometric changes n other diseases, it will be observed that those of the former disease more nearly resemble the rapid rise and sudden fall of temperature observed in varioloid without secondary fever, mild scarlatina, and simple uncomplicated pneumonia which runs its course without fresh accessions of inflammatory action, while on the other hand, they differ materially from the rapid and oft recurring elevations and depressions of temperature characteristic of the various forms of paroxysmal *malarial fever*

6 The cause of *the rapid rise* and declension of the temperature in yellow fever must be sought chiefly in the changes induced in the blood and in those organs upon which the circulation and integrity of the blood depends Neither the rapid rise nor the sudden declension of the temperature can be referred wholly to the effects of the yellow fever poison upon the nervous system

While it must be admitted that the experiments of Chossat, Sir Richard Brodie, H Nasse, Claude Bernard, Brown-Sequard, Budge, Waller, De Ruyter, Schiff, Naunyn and Quincke, and the experiments of Tscheshichim, in which division of the medulla oblongata near its junction with the pons, caused a remarkable elevation of temperature from 102 92 to 108 68 Fah and finally convulsions and death, and a large number of pathologic observations, in which most remarkable elevations and variations of temperature accompany profound alterations and disturbances of the nervous system, without corresponding changes in the respiration and circulation, sustain the theory of centers of control which have their seat in the brain, and which regulate the activity of the spinal cord, (when they are destroyed, the activity of the spinal cord being morbidly increased, as manifested by increased reflex action, quickened respiration, acceleration of the cardiac systole, and increased animal heat), and that a great part of the pathologic phenomena of warmth may be only the expression of the action of the vasomotor nerves, and still farther that the integrity of certain parts of the central nervous apparatus is more necessary for the regulation of animal heat than that of any other part of the body, on the other hand, Breuer and Chrobok, after an investigation of the question, whether the nerves of a part supply the stimulus which causes the febrile elevation of temperature in an inflamed part, by means of experiments on animals in whom they have as far as possible divided all the nerves of one part of the body, think themselves justified in concluding that the fever of the traumatic inflammation is independent of the nervous connections of the inflamed part, with the nerve centers, and by an extended series of observations, (see note) I have established the fact that in hospital gangrene and pyemia, the elevations of temperature are independent of the local lesions *of the structures*, and are coincident with the introduction of the gangrenous and pyemic poisons into the blood, and the changes of temperature are intimately associated with the changes of the blood and urine, and are invariably accompanied by increased amounts of such constituents as urea, phosphoric and sulphuric acids, which result from the chemic changes of the solids and fluids of the body, and even the traumatic fever accompanying gunshot wounds arises from the introduction of inflammatory products into the blood, and depends not so much upon the extent and nature of the wounds as upon the state of the solids and fluids at the time of the reception of the injury, and upon the character of the inflammatory products absorbed into the circulatory fluid Even in such inflammatory diseases as pneumonia, attended with extensive tissue change, the introduction of certain organic products into the blood must be active to a greater or less extent in the production of high temperatures

It is well known that some of the most violent poisons, during their direct action upon the nervous system, are unattended with elevations of temperature, while on the other hand putrid matter, pus and certain animal secretions, as the poison of the rattlesnake and copperhead of this country, induce profound alterations in the constitution of the blood, attended with the most marked variations of temperature, and in the action of the latter class of poisons, the phenomena *appear to be akin to the changes which may be induced by ferments*, which are not only capable of increasing the amount of heat, but may be *limited in their action*, or *in the amount* and character of the changes which they induce in virtue of their chemic constitution and that of the blood or medium in which they are active

It is well established that certain substances as woorara, coffee, musk and camphor, and putrid fluids, have a direct effect in raising the temperature after their entrance into the circulation

Voisin and Lionville, by means of subcutaneous injections of woorara, induced a complete artificial fever in human beings, with rigors, heats and sweatings, the temperature rising to 104 8 F, accompanied with all the signs of febrile circulation and secretion and disturbance of the nervous system

The effects of certain animal substances in elevating the temperature, when injected into the blood, have been shown by the experiments of Billroth, Hufschmidt, O Weber, Fresse and others When the putrid solutions or pus are injected in the blood, the temperature rises considerably even within two hours after injection, and reaches its maximum in from two to twenty-eight hours, after a single injection a rapid defervescence generally sets in, shortly after the acme has been reached, while on the other hand, after repeated injections, death constantly occurred generally with high temperatures Fluids from inflamed tissues, pyemic and septicemic blood, and even the blood of an animal merely suffering from simple inflammatory fever, or from other kinds of fever, produced similar deviations of temperature

Fresse has determined by experiments, that the rise of temperature induced by the introduction into the blood of the products of decomposition, and of inflammatory tissue destruction, do not depend upon the pus corpuscles, nor upon the so called germinal matter, which according to some, are such powerful and essential agents in the production of inflammatory diseases, but upon the serum of the fluid,

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NOTE —Investigations upon the Nature, Causes and Treatment of Hospital Gangrene as it prevailed in the Confederate Armies, 1861-1865, by Joseph Jones M D Surgical Memoirs United States Sanitary Commission, vol ii, pp 146-570 even boiling and subsequent filtration does not destroy the property, and that the removal of the fibrin and even the filtration of the blood of animals suffering from fever, do not deprive it of the pyrogenic effects when injected into the living circulating blood

The unknown cause which excites the specific morbid process of yellow fever would appear to have something in common with the action of such putrid animal substances, when introduced into the blood, and the fact is worthy of careful consideration that the property possessed by such matters, of exciting chemic change and elevation of temperature, was not destroyed by boiling and subsequent filtration of the putrid matters, for we have thus a clear demonstration that the animalculæ, vegetable or germinal theories, as to the origin of yellow fever, are not *absolutely necessary* to the explanation of the febrile phenomena

Neither the rapid rise nor the sudden declension of the temperature in yellow fever, therefore, are *necessarily* referable *solely* to the effects of the poison upon the nervous system, because, in the first place, the changes of the blood are among the first manifestations of diseased action, and the progress and termination of each case is largely dependent upon the extent and character of the changes of the blood and the degree of elevation of the temperature, in the second place, the sudden fall of the temperature during the succeeding stage of calm may be referred to the peculiarity of the self-limited chemic changes excited by the poison, and to the structural alterations induced in the muscular tissue of the heart and in the liver and kidneys, and the sedative action of the bile, urea and other excrementitious products retained in the blood upon the nervous system, and finally, in the third place, the changes of the blood and of the heart, liver and kidneys are of a definite physical and chemical nature and could never be induced by a mere exaltation or depression of nervous action, and must be referred to the introduction and action of some agent or material, related in a definite manner in its chemical constitution and physical properties, to the fluids and solids in which it induces these profound physical and chemical changes

Without doubt, the action of the yellow fever poison upon the nervous system may be indirect and of the most important character, but the best established facts do not justify us in locating the origin of the disease wholly in the action of the poison upon the nervous system, and in fact the earliest sensible manifestations of disordered nervous action, as evidenced in unconsciousness, loss of appetite and chilly sensations may be entirely secondary to the changes in the blood, by which all parts of the nervous system are surrounded and supplied

It must, however, be admitted that in the present state of our knowledge it is impossible to refer the elevations and depressions of temperature in yellow fever, with certainty to either the decrease or increase of any one constituent of the blood, for M Andral has shown that when the blood contains more than 004 of fibrin the temperature rises, and in a corresponding ratio Thus of all diseases, pneumonia is marked with the greatest increase of fibrin, and is the highest in temperature of all the phlegmasiæ, in eighty-five cases, in only thirteen was the temperature below 39 degrees C (102 2 degrees F), in forty-four it was between 39 and 40 degrees C (102 2 and 104 degrees F) in twenty-six below 40 degrees C (104 degrees F) and 41 degrees C (105 8 degrees F), and in two rose to 41 2 degrees C (106 16 degrees F) In acute pleurisy, in which there is always less fibrin, the temperature only once reached 41 degrees C (105 8 F) and usually oscillated between 38 5 degrees C (101 3 F) and 39 5 degrees C (103 1 degrees F) M Andral, however, records exceptions to this relationship of the increase of fibrin and the elevation of temperature in inflammatory diseases, as in erysipelas, when there have been only 007 of fibrin, the temperature has been 41 8 degrees C (107 24 degrees F), and he very justly does not consider the increase of fibrin and the rise of temperature as cause and effect, for in the pyrexiæ, when there is no excess of fibrin, but rather a diminution of this constituent, the temperature is as high or higher than in the phlegmasiæ; thus 42 4 C degrees (108 32 degrees F) have been reached in typhoid fever, 42 degrees C (107 6 degrees F) in the event of smallpox, the last stage of ague and in glanders, etc Indeed, the highest degrees are reached in diseases where there is the least fibrin in the blood (See note) Neither do the number of red globules affect the rise of temperature to an appreciable degree in inflammations and fevers, as I have carefully determined by comparison of the constitution of the blood, with the elevations of temperature in various diseases

(To be continued)

SOCIETY PROCEEDINGS

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill, Nov 9 and 10, 1894

(Continued from page 327)

COMPARATIVE VALUE OF PLASTER-OF-PARIS AND SILICATE OF SODA, AS A DRESSING FOR FRACTURES

BY MILTON JAY, M D

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Plaster-of-Paris, and silicate of soda are both valuable agents in the treatment of fractures, when skillfully used by the experienced surgeon, and we soon become so familiar with the use of such common agents as these that we are likely to imagine that any one can readily and in a proper manner apply either of these bandages to any and all kinds of fractured limbs But because of the careless manner and unscientific way in which inexperienced persons use either the plaster-of Paris or silicate of soda in the treatment of fractures many failures and results that are not satisfactory are recorded The first question should always be, Do *we know how* to use any agent or instrument successfully before we condemn it? It may be a failure in our hands, and yet a success in the hands of one experienced It will not do to condemn or extol an agent or instrument as being good or bad upon a single trial, or upon the authority of a single person, it may require experience to enable a good surgeon to discover the good or bad qualities of an agent, instrument or appliance I have more than once attempted to use an instrument or surgical device (with which I was not familiar) denounced it as worthless and laid it aside but after seeing it used by an experienced hand it appeared to be perfect I have tried again and succeeded, came to the conclusion that it was just the thing, I had learned how to use it This same rule holds good in the application of bandages in cases of fractures No *one splint* or *one* kind of bandage will do for all kinds of fractures Different kinds of fractures, as well as fractures of the same kind in different parts of the body, require a splint or bandage well adapted to each individual case

I am satisfied that the plaster of Paris splint when properly applied will fill more indications and be applicable to

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NOTE —Medical Times and Gazette, July 1, 1870 more kinds and a greater variety of fractures than any one agent in surgical use The silicate of soda (or liquid glass, as it is sometimes called) is clean, neat, and very fine for small bones It is easily applied and makes a beautifully light splint or fracture dressing, there is nothing untidy or unclean about it, hence as a dressing for the fastidious, who insist on having everything neat and clean, whether sick or well, this is a very desirable dressing for the smaller bones But as an agent that is to be used in the treatment of fractures generally, it will not compare favorably with the plaster-of Paris, which will set or become firm and permanently fixed much sooner than silicate of soda, which dries very slowly and requires a long wait before it becomes firm In compound fractures, or where an opening is necessary to treat a flesh wound, the plaster of-Paris is the preferable bandage One can also succeed better with the plaster of Paris, when the surface is irregular or uneven, or where a joint must be included in the bandage In all cases of railroad fractures except it be of the fingers, you will succeed best with plaster of Paris In fractures of the femur in upper third when it is necessary, in order to fix the short fragment, to include the pelvis as well as the leg in the bandage, the plaster of-Paris is the only agent out of which to make a perfect dressing In all injuries about the spine, when it is necessary to secure fixation no agent acts so perfectly as plaster of-Paris In general surgical practice it would be very difficult, at least, if not impossible to find a substitute for it, while silicate of soda is very convenient at times, and makes a fair substitute in certain cases, yet we could dispense with it altogether without much inconvenience

Some surgeons have advocated the use of silicate of soda for the reason that it is always pure and clean and aseptic I have never had any trouble in securing plaster-of Paris which was not strictly pure and clean I always use dental plaster and prepare it myself when I am ready to use it I have never had any trouble from either in this respect I think that there is less trouble in removing a cast or bandage of silicate of soda than plaster-of-Paris, and you do not litter up the surroundings as you must do with the removal of a plaster-of Paris cast But this is of little consequence, when compared with its efficiency

There is what is known as the Bavarian splint—a hinge splint—used for fractures of the leg near the ankle, or including the ankle and foot which is easily and conveniently made of plaster of Paris but very difficult to make of silicate of soda

For bandaging the head in cases of injuries when it is necessary to secure fixation as well as cleanliness, I prefer the starch bandage to either the plaster or the silicate Hence I argue that by experience in the general practice of surgery, we learn to use a variety of ways and means to adjust and keep in apposition the multiplied varieties of fractures which we are called upon to treat In some cases we use splints, in some bandages, in others neither splints or bandages I like the ingenious surgeon who can and will devise something new, if he can not readily secure the old favorite with which he is familiar Many times a hastily devised appliance in case of emergency has proved to be a valuable acquisition to our surgical armamentarium

DISCUSSION

Dr. Harnden—Dr Jay has called attention to an important point I know some men who call themselves prominent surgeons who use silicate of soda in cases of fractures of the larger limbs I was called in six months ago to assist a confrére in applying a silicate of soda dressing to a fracture of the femur in a child about 10 years of age The child was subject to convulsions and I protested to the doctor against using silicate of soda, although he said it was all right, and he preferred it to plaster of-Paris I assisted him in using it under that protest The limb was badly deformed, and it was caused, the doctor says, by the convulsions, the limb being drawn out of shape before the silicate of soda had thoroughly hardened I call attention to that point The Doctor has brought it out very nicely

Dr. Webb J Kelly, of Galion, Ohio—Dr Harnden's remarks bring to my mind a case I saw two or three years since that involved a considerable amount of money, and the treatment was questionable A passenger on our Southwestern Limited stepped off of the back end of the train and had one limb badly injured about the knee His home was in St Louis, he having a brother there who was a practicing physician He came under our immediate care We dressed the limb with plaster of-Paris, applying the dressing nicely, and then telegraphed for his brother His brother arrived the next morning, examined the case, said the dressing was too heavy, and that there was no sense in using such a dressing He took off the plaster of Paris and applied silicate of soda In one hour thereafter the patient was placed on a cot and taken to St Louis, and only a short time ago I was told that in about three or four months thereafter the man died His death involved a point that came up with his insurance, whether he could have died from that injury, or whether it was the injury sustained in connection with moving him with this light dressing on, some seven or eight hundred miles There were two accident companies represented in the case and they fought it vigorously so that the heirs never got a cent This is a point that nobody ever thought of

Dr Parker—I will suggest one point in regard to the use of plaster of Paris I recognize the usefulness of such a dressing, as we all do I also have found in my own practice that it is not well to apply it immediately in some of the severe injuries we are called upon to treat I have waited a few days, applying some temporary dressing until the swelling has reached its height, then applying the plaster of-Paris dressing In children there is no question of plaster of Paris setting quicker, and in fractures that are still movable, it is a more rapidly setting material than silicate of soda I have been in the habit for a long time in order to make my plaster bandage lighter, of using pasteboard You know how easily this material can be torn It is not necessary for you to cut it with the scissors, but you can tear it easily and use it in connection with your plaster There is one point I would suggest for your consideration Possibly you have observed the same thing It is a frequent custom with surgeons to take a case that has been in splints, where there is a good sized callus, and put on a plaster bandage, and on the fourteenth day or so allow the patient to get up I have noticed in those cases that when the bandage is opened at the end of fourteen days or more that the callus has almost entirely disappeared and union had not taken place, although when it was put in the cast there was every evidence that union was taking place The callus was ample and the indications were that union was taking place I have a theory to suggest for that which is this I think the pressure of the bandage on all sides upon the nutrient vessels interrupts or disturbs the normal nutritive action and arrests the callus forming process I have seen this a number of times and I have no better explanation for it I have seen the callus disappear very largely and union delayed If the limb in these cases is put back into a Volkmann's splint or some apparatus of that kind, in another ten days the leg is solid On the other hand, I have seen union delayed where Buck's extension has been used on the femur, whereas if the patient's limb is put in a plaster of Paris dressing union takes place It is in those cases where there is a good-sized callus and the bandage has been applied snugly, all swelling having disappeared, that the plaster of-Paris dressing delays union I call attention to one method of using plaster of Paris in spinal injuries because we all have them to treat more or less I have found the hammock method of applying a plaster jacket to be very advantageous I make it a rule invariably in spinal injuries to apply a light jacket, because it is impossible to think of suspending patients in a Sayre apparatus In the hospital with which I am connected they have rigged up an apparatus for this purpose

Dr H J Maynard, of Cheyenne, Wyo, stated that in all fractures below the knee—even in compound fractures unless there be much destruction or laceration of soft parts, plaster-of Paris has been for years his strong hold In Wyoming he has encountered a great many cases of fracture of the leg among cowboys from falling off horses, and these fractures were almost always below the knee The first hint he got with regard to the use of the plaster stirrup in fractures was from Dr Hodgen, of St Louis, and he has since used it with excellent results in a great many cases

Dr Lemen said if there were any members present who were not familiar with the manner of making and applying the plaster stirrup, he would demonstrate how it was done (This he did) In the last twenty five years he said he had treated over six hundred fractures with the plaster stirrup and invariably he has obtained good results in cases of fractures below the knee There were three cardinal principles to be observed in regard to the treatment of all kinds of fractures 1, the diagnosis—the surgeon should be sure that he has a fracture before he applies a dressing, 2, place the fragments in position, and 3, retain them there If these three principles are observed the results would invariably be good

(*To be continued*)

TABLE SHOWING NUMBER OF STUDENTS IN ATTENDANCE AT ONE HUNDRED AND ONE COLLEGES IN THE UNITED STATES AND CANADA SESSIONS OF 1894-95 1893-94, AND AVERAGE YEARLY ATTENDANCE OF PREVIOUS YEARS

[REPRINTED FROM THE JOURNAL OF JANUARY 12, BY REQUEST]

COLLEGES	Students in Attendance, by Grades 1894-5				Total Attendance 1894-5	Total Attendance 1893-4	Average Yearly Attendance 1889-90, 1893-94	Per Cent of Increase or Decrease	
	1st	2d	3d	4th				1894-95 compared with 1893-94	1894-95 compared with prev 5 yrs
Medical College of Alabama	53	32	16		101	102	128	— 98	—21
1 Medical Department Arkansas Industrial University	50	22	3		75	71	85	1 3+	—11 7
2 Cooper Medical College	75	78	75		228	228	160		42 5
Medical Department University of California	33	46	66		145	109	89	33 +	63 +
College of Medicine University of Southern California	18	16	10		44	37	30	18 9+	46 6+
3 Denver Medical College	10	15	13		38	38	43		—11 6
4 Medical Department University of Colorado	20	15	10		50	35	23	42 8+	117 4+
Gross Medical College					72	18	51	—10	11 1+
5 Medical Department Yale University	60	20	14		94	73	65	28 7+	44 6+
6 National Medical College	75	40		55	170	151	151	12 5+	12 5+
7 Medical Department University of Georgetown	39	36	35	11	121	136	116	—11	4 3+
8 Medical Department Howard University	48	36	10	25	119		107		11 2+
9 Atlanta Medical College	50	160			210	173	163	21 4+	28 8+
10 Southern Medical College	52	15	14		82	81	87	1 2+	—5 7
Rush Medical College	330	300	170		800	767	613	4 2+	30 5+
Northwestern University Medical College	96	76	93	8	265	252	259	5 1+	2 8+
11 College of Physicians and Surgeons of Chicago	67	53	40	86	246	288	222	—14 5	10 8+
12 Central College of Physicians and Surgeons, Indianapolis					52	38	36	36 8+	44 4+
13 College of Physicians and Surgeons of Keokuk	122	78	33	5	238	176	141	35 2+	68 8+
Medical Department State University of Iowa	85	65	43		193	162	145	19 1+	33 1+
Iowa College of Physicians and Surgeons	35	15	13		63	48	39	31 2+	61 5+
Keokuk Medical College	61	42	40		143	143	145		—1 3
Council Bluffs Medical College	5	9			14	12		16 6+	
Kansas Medical College	29	18	8		55	45	44	22 2+	25 +
Kentucky School of Medicine					426	504	440	—15 4	—3 2
Hospital College of Medicine					210	123	127	70 7+	65 3+
14 Medical Department New Orleans University	11	12	5		28	36	19	—22 2	47 3+
Medical School of Maine	53	30	30	3	116	97	95	19 6+	21 5+
College of Physicians and Surgeons of Baltimore	167	168	119	8	462	461	470	2+	—1 7
15 Baltimore Medical College	140	106	116	8	409	303	219	35 1+	86 7+
Woman's Medical College of Baltimore	28	8	4	2	42	20	22	110 +	90 9+
16 Johns Hopkins University	32	19			51	18		183 3+	
Harvard University Medical School	182	124	96	34	436	420	382	3 9+	14 1+
College of Physicians and Surgeons of Boston	43	77	10		120	137	87	—12 4	37 9+
Tufts College Medical School	41	23	21		85	72		18 +	
17 Michigan Univ, Department of Medicine and Surgery	116	101	66	65	348	380	364	—8 4	—4 3
Detroit College of Medicine	111	95	78		284	285	218	— 35	30 2+
Michigan College of Medicine and Surgery	53	41	22	5	121	118	115	2 5+	5 2+
College of Medicine and Surgery, Univ of Minnesota	102	66	53		221	181	141	22 +	56 7+
18 Minneapolis College of Physicians and Surgeons	22	17	18		57	13			
Missouri Medical College	76	64	74	2	216	182	190	18 6+	13 6+
St Louis Medical College	43	41	26		110	95	121	15 7+	— 9
Medical Department, University of the State of Missouri	22	12	5		89	89	37	5 4+	5 4+
Kansas City Medical College	34	48	31		113	109	88	3 6+	28 4+
19 St Louis College of Physicians and Surgeons	106	94	42	14	256	140	183	82 8+	40 +
20 University Medical College Kansas City	65	52	39		156	119	100	31 +	56 +
21 Ensworth Medical College and Hospital						38	56		
Barnes Medical College	108	92	92	23	315	236	249	33 4+	26 5+
22 Woman's Medical College of St Louis	18	9	4		31	43	26	—28	19 2+
Omaha Medical College	38	25	24		87	75	49	16 +	77 5+
John A Creighton Medical College	11	25	15		51	33		54 5+	
23 Dartmouth Medical College					139	114	100	21 9+	39 +
24 College of Physicians and Surgeons of Columbia College	222	241	231	83	777	786	630	—1 1	23 3+
25 Albany Medical College	76	53	58		187	173	165	8 +	13 3+
26 University Medical College, New York City	152	111	114		377	365	531	3 3+	—29
Medical Department University of Buffalo	93	84	64		241	188	184	28 +	81 +
27 Long Island College Hospital	95	63	59	24	241	255	231	—5 8	4 3+
28 Bellevue Hospital Medical College	120	110	115		405	407	419	— 5	—3 4
29 Woman's Medical College of New York Infirmary	33	19	34		86	82	86	4 8+	
Syracuse University College of Medicine	34	30	17		81	61	54	32 8+	50 +
Medical Department of Niagara University	21	23	19	3	66	57	48	19 3+	37 5+
Leonard Medical College Shaw University	13	9	15	11	48	57	49	—15 8	—2
North Carolina Medical College		24			24	16		50 +	
Medical College of Ohio					296	242	237	22 3+	24 8+
30 Medical Department Western Reserve University	42	32	32		106	93	130	14 +	—18 4
31 Starling Medical College	122	99	66		287	223	165	28 7+	73 9+
Miami Medical College					95	92	89	3 2+	6 7+
32 Toledo Medical College	21	20	9		50	38	38	31 5+	31 5+
Woman's Medical College of Cincinnati	15	10	9	1	35		26	34 6+	
33 Ohio Medical University	56	29	26		141	79	80	78 5+	78 4+
Medical Department of Willamette University	14	15	7		34	36	31	—5 5	9 7+
Medical Department, University of Oregon	23	12	7		42	29	23	45 +	82 6+
34 Medical Department, University of Pennsylvania, Medical Department	244	196	352		792	787	671	6+	18 +
35 University of Pennsylvania, Medical Department									
36 Jefferson Medical College	220	251	225		726	640	591	17 8+	25 4+
37 Woman's Medical College of Pennsylvania					168	192	192	—12 5	—12 5
Medico-Chirurgical College	74	54	81		209	184	140	13 +	49 3+
38 Medical Department, of Western Univ Pennsylvania	115	94	72		281	262	184	7 2+	52 6+
39 Medical College of the State of South Carolina	25	30	25		80	70	60	14 3+	33 3
Nashville Medical College					180	234	251	—23	—24 2
40 Meharry Medical College	37	32	31		101	107	90	—5 6	12 2+
41 Tennessee Medical College	32	22	12		66	79	68	—16 4	—12 9
42 Sewanee Medical College					47	25		67 8+	
Medical Department, University of Texas	85	55	8		148	116	55	27 6+	169 1+
Medical Department University of Vermont					202	192	190	4 9+	6 3+
43 University of Virginia	86	82		15	168	143	130	17 4+	29 2+
44 Medical College of Virginia	53	57	7		182	96	67	37 5+	97 +
Wisconsin College of Physicians and Surgeons	16	15	3		34	31		9 7+	
45 McGill University, Faculty of Medicine	111	120	95	70	398	350	237	13 7+	67 9+
Faculty of Medicine, Laval University	45	45	55	59	247	286	280	—13 6	—16
Trinity Medical College					306		292		4 8+
Halifax Medical College	26	7	8	6	43		33		30 3+
University of Bishop's College, Faculty of Medicine					64	54	52	11 1+	15 4+
46 Manitoba Medical College	45	36	23	26	130	101	76	28 7+	71 +
Ontario Medical College for Women	9	10	7	11	37	34	34	8 8+	8 8+
Anonymous Schools	356	322	221	118	*1057	1057	910		16 1+

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[1] A number preceding a college title refers to a note of comment bearing the same number in the Notes and Comments column following this Table

* Including 40 specials

The foregoing table gives the following aggregates for the 101 reporting Colleges including 7 not specified by name, but whose totals are given under the title Anonymous Schools

First year students	[illegible]
Second year students	[illegible]
Third year students	[illegible]
Fourth year students	751
Special and irregulars	[illegible]

Aggregate attendance, 1894	17 761
Aggregate attendance, 1893	[illegible]
Aggregate average previous years	[illegible]
Percentages of increase	
1894 over average of previous years	[illegible]
1894 over 1893	[illegible]
1893 over average of previous years	[illegible]

NOTES AND COMMENTS

[1] Estimated, return made "first day of regular winter term, students not all in Decrease in numbers since 1891-92 due to adoption of three years' compulsory course"—Med Dept, Arkansas Industrial University

[2] "We have just adopted a four year curriculum In the first year of the table, seventy five includes students of the first and second years of the four year course, i e, first year thirty seven, second year thirty eight, total seventy five I may say in addition that these figures include from two to five physicians each year—as well as a number each year who do not 'stick' but as the same occurs at other colleges I presume these figures will afford basis for comparison"—Cooper Medical College

[3] "The decrease in our attendance can be directly traced to the unequal competition of a State school removing to Denver and taking any student who applies, at no cost to the student whatever It also means that our standard has been maintained"—Denver Medical College

[4] "Four-years' course begins with the session of 1895-96 A large increase occurred in sessions of 1893-94, owing to second and third years being taught in Denver, instead of Boulder, giving good clinical advantages The increase seems likely to continue"—Med Dept University of Colorado

[5] You will note that there has uniformly been a larger number of students in the first year than in the second or third This has been due to the fact that a very considerable number of students fail at the end of the first year, and therefore have to repeat their work Our entrance requirements are placed at the high school grade in the subjects in which we require examinations, and these requirements are well enforced, yet we have this large percentage of failures of men who can not stand the work of our first year I do not know whether this is the experience elsewhere, but certainly our matriculation requirements are higher than the average of the country, and the whole thing seems to me to be a strong argument for the necessity of a higher grade of matriculation I have felt for some time that this increase in the matriculation requirement was more needed in this country than the increase of time of study that is that three years with well prepared students would be better for the profession than a larger number of students kept at their professional work for a year longer This opinion, however, does not seem to be the one which has prevailed We have delayed starting the four years' course hoping that there would be a general increase in matriculation requirements first, and while we do not altogether give up the hope of increasing matriculation examinations, we are about to adopt the four years' course in conformity with the other schools of the better class I wish you might have included in your examination, the question of the proportion of medical students who are college graduates and whether this is increasing or diminishing"—Med Dept, Yale University

[6] "In this list the third and fourth years are given together, as last year was the beginning of the four year system"—National Medical College

[7] "A large number of students who matriculated last year withdrew and went to schools with a three year course The four year course was made obligatory last year This probably reduced the number of matriculates this year"—Med Dept, Georgetown University

[8] 'Four years' course began with the session of 1892-93"—Med Dept Howard University

[9] "The scholastic year has just been changed to a three-year term, and this is the first year of such change"—Atlanta Medical College

[10] "Small attendance in our second course is attributed to the fact that those who attended with us in 1893-94 can graduate in ——Medical College at end of this term, while we would require them to attend until end of 1895-96 Those seeking early graduation have thus left us The large increase in our first year course is due to the school having adopted a three year graded course and having by hard work for fifteen years established a very good reputation for giving thorough instruction" Total attendance 1894-95 (82) includes 'one fourth year" The college however, is not a four year school—Southern Medical College

[11] "The reason of decrease is on account of the grade being raised and examination more difficult, also our course being four years instead of three"—College of Physicians and Surgeons of Chicago

[12] "There is a larger percentage of students who have attended literary colleges than in any former year"—Central College of Physicians and Surgeons, Indianapolis

[13] "Faculty reorganized in 1890-91, with resulting steady improvement in size of the class"—College of Physicians and Surgeons of Keokuk

[14] "Our school two years ago adopted a four years' course of study"—Med Dept New Orleans University

[15] "Total 109 includes two fifth year one eighth year and thirty six" not graded at date of making report—Baltimore Medical College

[16] "Attendance 1893-94 includes three women, first year, 1894-95 includes eight women, second year 1894-95 includes two women "Our medical school is now in its second year A noteworthy fact is that all of the fifty two persons admitted in the two years are graduates of a reputable college, holding baccalaureate degrees, and several of them have pursued graduate studies in the sciences after completing their college work In addition to these undergraduates in medicine, a large number of physicians are attending special courses in the Johns Hopkins Hospital given by University professors 1893-94—65, 1894-95 (to November 21)—11"—Johns Hopkins University

[17] "The large senior classes in 1891 and 1892 were due to the fact that in 1890 we changed from a three to a four years' course This change, which was announced some years beforehand, brought us large classes in 1888 and 1889, students realizing that if they entered later than 1889, they would have to spend four years here The small senior class in 1893 is explained in the same way It appears from the figures that we have fewer medical students than we had last year This is not true The number is about the same as it was this time last year There are always students coming here in the fall, who are unprepared to enter the medical course and have to do some work in the literary department or in the high school before they can enter Some of these will enter the medical department at the beginning of the second semester They will not be able to graduate with those who entered this last October, but it will increase the number of students appearing on our register when it is published next spring"—Dept of Med and Surg, University of Michigan

[18] "This college was reorganized last year, so members for past years would not be of value for statistical purposes"—Minneapolis College of Physicians and Surgeons

[19] Causes of increased attendance "Faculty thoroughly reorganized and prominent teachers from numerous Western schools having been selected Also refusal to admit inferior students—no candidate being accepted unless presenting diploma of college or high school College has no entrance examinations, they are farces!"—St Louis College of Physicians and Surgeons

[20] There has been an increase, due to the fact that the school has offered unusual clinical advantages, which have attracted students in spite of the business depression This increase is so marked, as evidenced by the fact that more than one third more actual attendants are present, so that the capacity of the college is strained to accommodate the students Matriculation list is twenty five higher than attendance"—University Medical College of Kansas City

[21] "There was a marked falling off last session The chief cause was, I think, that no one could graduate on two terms and such sought other schools One of these now finds that his two term diploma will not register him and he proposes to take another course Another cause was that some of them thought they could more certainly graduate in another school The hard times was another cause"—Ensworth Medical College and Hospital

[22] "We had forty-three students in attendance last session, this year thirty one—decrease the result of the scarcity of money"—Woman's Medical College of St Louis

[23] "The present is the ninety eighth annual course of lectures at this college, and the number of students is the largest in its history Causes A hospital has just been

opened in town Possibly the depression in general business may have some influence "—Dartmouth Medical College

[24] "There is a decrease in the first year, due to the establishment of the four-years' course "—College of Physicians and Surgeons of Columbia College

[25] "Not complete, return made November 1"—Albany Medical College

[26] "The junior class of session of 1891 was the first under the graded system "—University Medical College of New York City

[27] "Our collegiate year does not close until June, 1895, and we always have a considerable number entering our reading term in March—these will bring our number for 1894–95 up to 280 or more This is the largest class we have ever had, and is undoubtedly due to the clinical advantages we offer "—Long Island College Hospital

[28] '1890–91 was the last year of the two-years' system, 1891–92 was the first year of the *obligatory* three years' system The unusually large class of 1890–91 was due to the fact that many students intend to take advantage of the two-years' system In 1891–92 three courses of lectures were made obligatory Students were required to pay for each course attended and the fees on lectures were raised from $140 to $150 *Unclassified* includes those who did not attend the full regular course " In the total 409 for 1894–95 are included 60 "unclassified," and in the total 407 for 1893–94 are included 85—Bellevue Hospital Medical College

[29] "Our four-years' course began with the session of 1893–94 and there are consequently no fourth year students as yet " The total third year students (thirty four) include eight who are in the third year of the four years' course—Woman's Medical College of the New York Infirmary

[30] "With the session of 1896–97 we will require a fourth year It is now optional "—Med Dept Western Reserve University

[31] "The increase seems to affect all schools, more or less, and is probably due to prospective enforcement of the four-years' course next year "—Starling Medical College

[32] 'Increased facilities for instruction over years gone by have increased our class from thirty-eight the past season to fifty for the present "—Toledo Medical College

[33] "The increase is due largely to the reputation of the school among college-trained students and school teachers Our school is conducted on the normal methods of teaching The students are enthusiastic and spread the good news to their friends seeking a medical education "—Ohio Medical University

[34] "Increasing good reputation of the school and perhaps because of lack of opportunities for employment on account of times has driven more persons than usual to professional study "—Med, Dept, University of Oregon

[35] 'The total number in attendance this year (session of 1894–95) may be increased by about thirty when students at present under conditions are permitted to matriculate after their conditions are passed "—Med Dept, University of Pennsylvania

[36] "Partly due to the fact that we begin our compulsory four years' course next year Any progressive movement like this increases the popularity of the school as it indicates a determination to take a higher stand among the medical colleges "—Jefferson Medical College

[37] "The recent reduction in the number of students was probably due to the lengthening of the course of study to four years and the advance in the standard of entrance requirements adopted by the college "—Woman's Medical College of Pennsylvania

[38] "The great clinical advantages by reason of its proximity to a large general hospital, viz The Western Pennsylvania Hospital This and the fact that we have adopted the three-years' graded course explains the increased attendance "—Med Dept, Western University of Pennsylvania

[39] "Our facilities for teaching are being yearly increased and an increasing number of students are in attendance "—Medical College of the State of South Carolina

[40] "We now have a four years' course of study "—Meharry Medical College

[41] "The decrease is owing to the stringency in money matters all over the country "—Tennessee Medical College

[42] 'Heretofore conducted as a spring and summer school, not graded "The school has now withdrawn from the Southern Medical College Association and will teach annual terms of ten months, from first of March to latter part of December, and permit students to apply for graduation after attendance upon two such annual terms and three years of study "—Sewanee Medical College

[43] "We have no required third year, but some students distribute their study over three years " Two annual sessions of nine continuous months each are required for graduation "The increase of students is due to the establishment of the graded course "—University of Virginia

[44] "We have ten State scholarships, given in consideration of the fact that we receive aid annually from the State We have no other scholarship feature, as is so often found in other medical institutions, or our number of matriculates would have been greatly increased We have no dental or pharmacal department connected with our school It is proper to state that the number of students above for session 1894–95 is incomplete, as we expect a number more to come in soon "—Medical College of Virginia

[45] "During the last session the qualifications for degree were increased from four six months' sessions and two compulsory summer sessions of three months each, to four sessions of nine months each The increase in students was unexpectedly large this year which we attribute chiefly to the increased clinical advantages afforded from the opening of the new Royal Victoria Hospital "—Faculty of Medicine, McGill University

[46] "The increase during the present session is probably due 1, to the fact that the enlargement of the building last summer, increasing it to double its former size, was well advertised throughout the Province 2, the work of the college is becoming favorably known, 3, the proportion of young men entering the profession in this section of the country, as shown by increasing attendance, is rapidly (too much so, possibly), on the increase, 4, it has become generally known that it is the intention of the college to lengthen the term This has had the effect of bringing a few students in earlier than they would otherwise have come "—Manitoba Medical College

NECROLOGY

Dujardin-Beaumetz, M D, of Paris, at Nice, France, February 15, aged 61 He was physician to the Hôpital Cochin and a well-known writer on therapeutics He had many friends among the medical profession of America, and was a member of the Ninth International Medical Congress at Washington, 1887

Chas W Breyfogle, M D, who was for several years a leading physician of Louisville, died at his late residence, San Jose, Cal, on the 28th ult He was 54 years old, was born in Columbus, Ohio, lived in Louisville, and in 1872 moved to San Jose on account of ill health

Sir William Scovell Savory, F R S, Surgeon Extraordinary to the Queen, and late President of the Royal College of Surgeons died in London, March 4, aged 69 years

John Campbell Thompson, for many years a practitioner at South River, N J, died February 14, in his sixty seventh year He was a graduate in medicine at the College of Physicians and Surgeons in the class of 1856

Milton N Taylor, M D, of Baltimore, died February 25, aged 68 years He was a native of that city and a graduate in 1848 at the Washington University School of Medicine, since merged with the College of Physicians of Baltimore He was connected at odd times, from the year of his graduation, with the administration of health affairs He was the City Physician in 1853 and 1854 and a Commissioner of Health from 1867 to 1871

T S Hollinshead, M D, of Harrisburg, Pa, February 25 ——J F Parks, M D, Bourbon, Ind, February 28 ——A J Bell, M D, Atlanta, Ga, February 23 ——I de Zouche, M D, age 72, Gloversville, N Y, February 22 ——Francis Obetz, M D, Grove City, Ohio, February 20 ——W D McWhorter, M D, Washington, D C, February 20 ——A J Robb, M D, Owosso, Mich, February 26 ——J H Sherrod, M D Paoli, Ind, age 52 years, February 26 ——Grace Danforth, M D, Granger, Texas, February 21 ——I M Ward, M D, Lyons Farms, N Y, age 89 years, February 25 ——Ben Smith, M D, Mount Upton, N Y, February 23 ——L S Henthorn, M D, Indianapolis, Ind, February 25 ——W H Scobey, M D, Hamilton, Ohio, February 27

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE INCLUDING POSTAGE
PER ANNUM IN ADVANCE $5 00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
NO 86 FIFTH AVENUE CHICAGO ILLINOIS
W H LOWDERMILK & CO WASHINGTON AGENT

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This is obtainable at any time by a member of any State or local Medical Society which is entitled to send delegates to the Association All that is necessary is for the applicant to write to the Treasurer of the Association Dr Henry P Newman Venetian Building Chicago Ill, sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly

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All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor* and all communications relative to the business of the JOURNAL, proof sheets returned or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 86 Fifth Avenue, Chicago

SATURDAY MARCH 9 1895

SOURCES OF ARROW POISON

Commenting on LEWIN'S work on arrow poisons (*Die Pfeilgifte*) LAGNEAU observes that many of the European peoples in ancient times employed poisoned arrows, but most authors who mention the fact neglect to state the mode of preparing the poisons Some of these appear to have been composed of vegetable extracts of great toxic power, and others of venoms or putrified animal matters, undoubtedly containing ptomaines

The Gauls, according to PLINY, dipped their arrows for the chase in the juice of hellebore "*Galli sagittas in venatu elleboro tingunt*" (Hist Nat, lib XXV) He also speaks of an herb called *limeum* by the Gauls, from which they made a preparation which they called "poison of the deer" "*Limeum herba appelatur a Gallis, qui sagittas in venatu tingunt medicamento, quod venenum cervarium vocant*" (Hist Nat, lib XXVI) STRABO and ARISTOTLE also mention poisoned arrows for hunting used by the Celts The Scythians, according to OVID, then in exile on the shores of the Black Sea, coated their arrows with the gall and blood of the viper—more probably its venom Different Greek authors also speak of the viper as being used to poison arrows, but ARISTOTLE notes that the Scythians add human blood—*ἀνθρωπου αἷμα*—to the viper venom "When this blood is equally putrified," says ARISTOTLE, "the serous liquid which rests on top is mixed with the putrid viper and thus they make a mortal poison" (*De Mirab Auscult*, cap CXLI)

LEWIN states that among the Somali of Northeast Africa a blackish material called *waba* is used, this is extracted from plants of the *Apocynaceæ* and is identical with amorphous ouabain Among the Waitata of Central Africa the poison more nearly resembles crystallized ouabain Other Central African tribes, the Waschamba, Wanika, etc, like the Somali, use amorphous ouabain The peoples of South Africa possess modern arms, using poisoned weapons only exceptionally, so that in the near future these tribes will have lost the art of weapon poison In the rest of Africa the poison used is sometimes ouabain, sometimes strophanthin, sometimes a mixture of the two

In Asia, aconite seems to be preferred to other poisonous substances During the French war with Tonquin in 1878, REGNAULT showed that the natives used a cardiac poison extracted from the *Antiaris toxicaria* Many soldiers were wounded with weapons thus poisoned—in one skirmish a lieutenant and two privates, but only one of these had dangerous symptoms

TREATMENT OF PENETRATING WOUNDS OF THE CHEST

In the *Revue de Chirurgie*, for Jan 10, 1895, there appears an interesting article on the conduct of the surgeon, in the case of penetrating wounds of the chest by side arms, by HUGUET and PÉRAIRE, who quote numerous observations by TERRIER and LUCAS-CHAMPIONNIÈRE, and by themselves

The code duello is so much in vogue in France that even in the "piping times of peace," there is abundant opportunity for the study of this class of wounds

The authors make very clear by their observations that early removal of such patient from the field is extremely dangerous, unless every precaution be taken to immobilize the chest wall as far as possible The following is a summary of their conclusions

1 There is absolute necessity of treating the wounded, at the place, the gravity of the concussion communicated by transportation, whether the journey is long or short, gives even stronger reason, as treatment may be performed in the carriage If it is necessary to transport the wounded to a distance the inevitable jolting of the vehicle will produce hemoptysis or accentuate it, and this may induce the death of the patient

2 The state of syncope favoring hemostasis may be respected in a certain degree, but it may become necessary to make moderate subcutaneous injections of ether, to the end that the depression may not become too considerable It is in such cases that above all we may have recourse to caffein and to hypodermatic injections of artificial serum

3 The treatment of penetrating wounds of the chest by ordinary means (cold applications and iced drinks, injections of ergotin, compression, antisepsis, ligature of vessels, suturing of the wound) appears to us insufficient in many cases, unless immediately subjected to as absolute immobility as possible Thanks to this absolute rest which results from forced immobilization of the entire pulmonary apparatus, there is obtained a condition from the outset which alone may insure success

4 It goes without saying that this immobilization does not exclude the ordinary means mentioned

5 In case of hemothorax consecutive to a lesion of a great vessel, there is no urgent need, the phrase "*expectation armée*" (armed neutrality) never finds a better application than in such circumstances It is necessary to be guided by the symptoms and above all by the complications, to come to a determination It is not necessary to resolve upon thoracentesis until the effusion becomes too considerable, and the dyspnea excites serious fears for the case

6 The indication is in all cases of penetrating wounds of the chest to banish the permanent dressing, to make an elaborate dressing of the wound, being restricted to the necessities of the case, and always avoid jolting or concussions

The treatment recommended must commend itself to all military surgeons, notwithstanding this subject has furnished food for discussions from time immemorial

THE forty-sixth annual session of the AMERICAN MEDICAL ASSOCIATION will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9, and 10, commencing on Tuesday, at 10 A M

SANITARY EXPENDITURE PAYS

At the recent Indian Medical Congress—the first, by the way, in the annals of Indian medicine—SURGEON-LT-COL W G KING, D P H, delivered the Presidential address on Public Health, in which he pointed out that during the last six and a half years 201,394 deaths were registered from smallpox in the Madras Presidency Taking into account the probable number of survivals from these attacks at 64 3 per cent, he calculated that—without considering the capitalized value of lives—there must have resulted, during sickness and upon funeral ceremonies, an unproductive expenditure of 51 lakhs of rupees—if it be presumed that the persons attacked occupied no higher position than the coolie gaining Rs 5 per month Translated from East to West, in terms of currency, this means that a sum equivalent, in round numbers, to about $48,000,000 was wasted in six and a half years through a preventable disease —to say nothing of the suffering, the disabilities of the survivors and the loss of human life

On the other hand, one day last week the municipal authorities of Chicago dedicated, with appropriate ceremonies, what is known as the "four-mile crib" This is a structure covering the intake of an eight foot tunnel running out into Lake Michigan a distance of four miles from the city, with a daily capacity of 140,000,000 gallons, taken from the lake at a point beyond the observed limit of shore pollution As a matter of fact the tunnel has been in operation since December, 1892—a period long enough to furnish some interesting data concerning its effect on the death rate from typhoid fever and the diarrheal diseases The Health Commissioner, DR REYNOLDS, showed that during the three years from Jan 1, 1890, to Dec 31, 1892—about which latter date water was first let into the tunnel—Chicago had an average annual death rate from typhoid fever of eleven and one-half in every 10,000 of population In 1893—that is, during the first year's duty of the tunnel—this rate was reduced to four and one-fifth in 10,000, and last year it was still further reduced to three and one-tenth in 10,000 Up to the close of 1892, Chicago had, year after year, the greatest typhoid death rate of the seventeen principal cities of the Union—all those having populations of 200,000 or over In 1894 the city had moved up from the lowest to the tenth place in the scale of healthfulness in this respect, with a rate of 3 1 in 10,000, being outranked by New Orleans (3 0), Milwaukee (2 5), Boston (2 4), Cleveland (2 2), New York (1 6), and Brooklyn (1 5), and outranking Philadelphia (3 3), St Louis (3 5), Minneapolis (4 6), Baltimore (4 8), Louisville (5 0), Cincinnati (5 2), Pittsburg (5 6), Buffalo (5 7) and Washington (8 1)

It was further pointed out that while the greater or lesser prevalence of typhoid fever is generally accepted as an indication of the character of the water supply, it is by no means the only disease whose prevalence is increased by impure water The diarrheal diseases are similarly affected, and these cause in the aggregate a larger number of deaths than typhoid In the four years, 1890–93 inclusive, there were 7,803 deaths in Chicago from the diarrheal diseases—a yearly average of 1,951 In 1894 there were only 809 deaths from these causes—a reduction of over 58 per cent If the same death rate had obtained from typhoid fever and the diarrheal diseases in 1894 that obtained in 1890, '91, '92 and '93, there would have been 2,153 more deaths from these causes than there really were Accepting the capitalized value of a human life at $5,000—an estimate which is indorsed by the Legislatures of many States in fixing the penalty upon railroads for killing people outright—this would give an aggregate of $10,765,000 saved as against the cost of the tunnel construction and pumping plant ($3,083,000), leaving a balance of $7,682,000 to the credit of an improved water supply over and above its cost

In this computation, however, no account is taken of a still larger factor of cost Each death from typhoid represents, probably, twenty cases—nineteen of whom recover and are never mentioned in statistics, each death from the diarrheal diseases similarly represents probably forty cases—say an average of thirty cases to every reported death If, then, an improved water supply prevented 2,153 deaths from these diseases, it also prevented nearly 65,000 cases of these diseases, and has also saved their aggregate cost of medicines, medical attendance and nursing, of time taken from business or productive work, and f expenses of many other kinds incident to the sick oom

Sanitary expenditure pays, whether in vaccinating gainst the smallpox or in providing a pure water upply That is to say, it pays the community, whatever may be its effect on the income of the practitioner

EXACT ENGLISH AND PURE WATER

Although REPRESENTATIVE BARTHOLDT's efforts to secure the passage of a bill—to appoint a commission for the investigation of the pollution of water supplies where such pollution affects or threatens to affect the sanitary condition of the people of more than one State—failed at the session of Congress just closed, it is to be hoped that he will renew the attempt at the earliest opportunity and push it to a successful conclusion The subject matter is one in which every sanitarian is interested and the moot questions involved should be promptly and authoritatively settled Meanwhile, the agitation has not been without result, since the text of the measure has furnished occasion for an excursus upon the exact use of language which the JOURNAL thinks may be profitably reproduced

Commenting editorially upon the bill, an esteemed contemporary had this to say "One of the sections provides that 'at the next session of Congress the commission shall submit such suggestions as may seem desirable for the purpose of remedying any insanitary conditions that may have been developed by its work' Surely this is not what the framer of the bill meant, for he can hardly intend that the commission shall go into the business of developing insanitary conditions, he has simply lapsed into 'sloppy English'" To which the framer of the bill, DR CHARLES SMART, Surgeon, U S A , responds that this is precisely what he meant and intended "The transitive verb *develop* means to take a thing out of the wrappings or obscurities in which it is enveloped The thing referred to is in existence, but it is not apparent until its existence is developed by some agency It may be intangible—an idea, for instance, but the existence of the idea may be developed by the use of words spoken or written It may be invisible, as is the photographic picture, which can be seen only after it has been developed by certain chemic solutions, or it may be a very material and substantial thing, as a hostile army in line of battle, the position of which may be developed by reconnoitering parties The first two illustrations are analogues and the last is the homologue, from the literary standpoint of 'the insanitary conditions which may be developed [*Synonyms* uncovered, unfolded, laid open, disclosed, exhibited, unraveled, disentangled, detected —*Webster*] by the labors of a commission of competent investigators' Some persons, through ignorance or carelessness, use the word in the sense of to produce or to cause to come into existence, Against these the charge of lapsing into slovenly English may be preferred with justice, but certainly not against those who give the word its true value "

All of which goes to show that Analyst SMART is no less doughty a champion of English undefiled than of water unpolluted

THE TRIUMPH OF M PEAN

The session of the Academie de Medicine of Paris held January 15, was made remarkable by the presentation of a patient by M PEAN

This patient had had a carcinoma of the larynx and to relieve it, it was necessary for M PEAN to make entire extirpation of the larynx, the superior portion of the esophagus and the inferior portion of the pharynx Not only did the patient support the mutilation, but by means of a prothetic apparatus constructed by M MICHAELS, under the direction of M PEAN, the organs were replaced so that the patient could breathe, eat and drink Not only that, but the apparatus allowed the patient to make articulate sounds, so that speech could be understood It is two years since the patient was operated upon, and the crowning glory of the operation has been the phenomenal, nay, the brilliant success of the artificial larynx In former times the saving of the life of a patient so afflicted would in itself have been a triumph of surgery, but to replace lost parts with apparatus of such delicacy and usefulness seems to represent an art almost superhuman

HENRI DE MONDEVILLE

In a scholarly article by DR ADRIAN SCOTT in the *Atlantic Medical Weekly*, March 2, 1895, we note the following

> 'The oldest French writer upon surgery is HENRI DE MONDEVILLE at first teacher in Montpellier, then body surgeon to PHILIP THE FAIR He was at the same time one of the earliest French writers upon anatomy, the instructor of CHAULIAC His 'Chirurgie' has never yet been printed"

This is an error, for the Chirurgie of MASTER HENRI DE MONDEVILLE was published last year In our issue of April 28, 1894, we published a leading article on the work, and complimented the editor, M NICAISE, on his great public service in rescuing DE MONDEVILLE's work from the obscurity in which it had so long remained

If DR SCOTT had read this JOURNAL carefully he would not have fallen into the serious error which we have noted

THE DATE OF THE ASSOCIATION MEETING

By an unfortunate error in the publication of SECRETARY ATKINSON's circular, the date was given as June The actual date is May 7, 8, 9 and 10

There need be no confusion if one will always remember that for many years the rule has been that when the ASSOCIATION meets south of MASON and DIXON's line, the meeting is invariably held in May, when north of that line in June

CORRESPONDENCE

A Warning against Castration for Prostatic Enlargement

CHICAGO, Feb 25, 1895

To the Editor —Permit me to utter through your columns a warning against promiscuous castration for prostatic enlargement The operation is so easy and the relief afforded sometimes so great, that some seem to have forgotten the existence of other means to the same end In several of the nineteen cases already reported, it would seem that complete relief should have been afforded by a simple incision, or simpler puncture, or perhaps even by a catheter in a practiced hand

The interesting analogy between uterine myoma on the one hand, and one element in prostatic enlargement on the other, has obscured to some of us the other element in this enlargement, the *inflammatory,* which while playing no rôle in uterine myoma, is the important clinical factor in all severe cases of prostatic hypertrophy

I hope to discuss this element at length in another place, and to show that a process which I call "milking the prostate" is an efficient measure for the relief of prostatic enlargement, at present, I shall merely mention the admitted facts that suppuration in the prostatic glands (prostato cystitis) occasions the patient acute distress, and that inflammation in the parenchyma results in the edema and connective tissue hypertrophy which constitute much of the enlargement That castration may cause atrophy of glands, subsidence of edema and hence relief of distress is admitted, but that it will not reduce the hypertrophied connective tissue is *a priori* probable and seems proved by at least two of the cases already reported

If the argument were ended here, the relative merits of castration and incision might be debatable, but there is another feature which, in my opinion, makes castration as the operation for the relief of prostatic hypertrophy dangerous to the surgeon namely, the impossibility of knowing that the cystitis is due to the apparent hypertrophy It is well known, for example, that prostatics very often have vesical calculi which may indeed be the chief cause of suffering, and that in such bladders calculi may easily escape detection by the sound because concealed by the projecting prostate or in diverticula I emphasize this fact because there have come to me within six months, two elderly patients suffering from prolonged and severe cystitis ascribed to the undoubtedly swollen prostates, each of whom had been urged by his physician to submit to castration Careful search with the sound revealed a calculus in one, but failed to detect in the other a small stone which was found by supra-pubic incision lying below the swollen prostate Prolonged vesical drainage was followed by great reduction of the prostatic enlargement (evidently inflammatory) and a symptomatic cure Imagine the status —professional and legal—of the surgeon who might have castrated either of these men, when the calculus was subsequently discovered

A mistaken diagnosis of simple prostatic enlargement—because this is a common cause of severe cystitis—is sometimes made when the real trouble is a less familiar condition, such as cancer, papilloma, tuberculosis, or concealed stone It seems to me therefore that whenever a case of real or supposed prostatic enlargement demands operative relief, this should always be an incision into the bladder, castration, if it have any place at all, must compete with prostatectomy and not with simple incision which, in the interest of surgeon as well as patient, should precede it The claim that double castration is safer than drainage is not, in my experience, warranted, if drainage be made by either perineal urethrotomy or supra-pubic incision in *deux temps,* the danger in cases that really demand operative interference is the anesthetic, not the knife

WM T BELFIELD, M D

Treatment of Gonorrheal Conjunctivitis

MINNEAPOLIS, MINN, Feb 23, 1895

To the Editor —Two recent cases of conjunctivitis have interested me and are perhaps worth publishing Jan 7, 1895, Dr B asked me to visit and take charge of a case of purulent conjunctivitis, to which he had been called during the night A young bride of two weeks, a healthy blonde, had suffered for four days from a profuse muco-purulent discharge of left eye, for which she had used some domestic eye wash and warm fomentations Dr B had been called on account of severe pain which was relieved by morphia and hot water I found intense congestion of entire conjunctiva, pupil strongly contracted, and a muco-purulent discharge which under the microscope showed only a few pus cells and streptococci, some of the latter in pairs The eye was thoroughly washed out with boracic solution, mopped with 2 per cent silver and again flushed with boracic solution A single drop of 4 grains solution atropia was instilled, and the eye was flushed every fifteen minutes during the day In eight hours it was much better The two following days 1 per cent silver was applied There was almost no discharge The fourth day the eye was white, slightly sticky in the morning, but free from irritation, and in a few days more entirely well There was nothing beyond a slight occasional leucorrhea which could be suspected of being a causative factor

Jan 12, 1895, Dr X, a professional friend, came to my office with what appeared a purulent conjunctivitis of both eyes His eyes were well in the morning, but at 3 P M, I found a profuse purulent discharge, with intense congestion of conjunctivæ The eyes were thoroughly washed out with boracic solution, mopped with 2 per cent silver, again flushed, and this repeated about three hours later Iced cloths were kept constantly applied until the following morning when the discharge had nearly ceased The 2 per cent silver was again applied, and the boracic solution at frequent intervals during the day On the second morning the eyes were free from discharge and practically well, there being only a few subconjunctival ecchymoses and a yellowish discoloration, with some feeling of stiffness The microscope showed as characteristic evidence of the gonorrheal nature of the pus as I have ever seen in unquestioned cases

Dr A F Irwin, Professor of Pathology at the College of Physicians and Surgeons, to whom I submitted the microscopic slide, concurred in my diagnosis In neither of these cases could the nasal condition have played any special causative part In the one there was a mild intumescent rhinitis, in the other the atrophic stage of hypertrophic rhinitis In the latter case, a profuse nasal discharge began and ended with the conjunctival discharge, being evidently secondary

The first case was probably a streptococcus infection The second, I am confident, was of gonorrheal origin My treatment of any acute conjunctivitis is usually introduced by an application of 2 per cent silver It is by common consent the proper thing if the case be purulent, and in my opinion the earlier the better If the case be catarrhal the indication may be less imperative, but it is equally clear

Yours respectfully,

EDWARD J BROWN, M D

THE forty-sixth annual session of the AMERICAN MEDICAL ASSOCIATION will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

n Inquiry

Columbus, Ohio, Feb 28, 1895

e to inquire of those among your experience in neural infixation, to information, for which I will be e credit

:ases operated, cause for operation, ming the nerve infixed as well as e implantation was made, also the xation was made

r reliable statistics in this class of obtaining more light on this impor-

ry respectfully yours,

R Harvey Reed, M D

py]

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da Health Notes

Philadelphia, Feb 24, 1895

ticed in a late issue of the Journal, *h Notes* will publish a series of papers ning with January, 1895 I have been ddress of the said periodical but did not e to you to kindly give me same on a ly have copies from which the extracts nks for your kindness

Respectfully,

Rev F H Gerhart

, Dr J Y Porter, Secretary State Board lle Florida

Expelled

Cleveland, Ohio Feb 24, 1895

ase publish in our Journal, the fol adopted by the medical staff of the this city, viz

F D Brandenburg be hereby expelled nprofessional conduct, *i e*, the giving of to the proprietor of a certain mineral ne of this staff, without their knowledge ich certificate we hereby repudiate"

Yours respectfully,

F W Walz, Secretary

OCIATION NEWS

Baltimore Meeting

the Committee of Arrangements held Committee of Transportation reported ilroads of the country had granted the on of rates to one fare and one-third on n to the delegates attending the meeting, The Secretary of the Association will nstructions for obtaining this reduction, ans of the Journal

elegates will be given in the next issue of Hotel Stafford will be the headquarters of

ertainments determined upon will be an n by the Trustees of the Johns Hopkins eral entertainment will also be given by the city, but the details of this are not yet

greatly reduced rates will be arranged to battlefield, to Washington and to Annapolis of these excursions will be given in future rnal

ommittee of ladies will have in charge the the hours when the latter are occupied

The Committee urges Section officers to arrange for the Section dinners on the evening of the first day (Tuesday) in order not to conflict with the arrangements for the general entertainments on Wednesday and Thursday evenings

The Committee feels that the primary object of the meeting of the Association is the transaction of scientific work, and that diversion and entertainment must be held subordinate to this Hence no encouragement will be given to any suggestions looking to abridge the time to be devoted to scientific work and the legitimate business of the Association The Committee hopes, however, to make the visit of the members the delegates, and their families, agreeable as well as profitable It is the earnest wish of the profession of Baltimore that no one coming to the meeting will leave our city with the feeling that his time has been wasted or unpleasantly spent

George H Rohe,
Secretary Committee of Arrangements

American Medical Association Annual Announcement

Office of the Permanent Secretary,
1400 Pine Street, Philadelphia

The forty sixth annual session will be held in Baltimore, Md, on Tuesday Wednesday, Thursday and Friday May 7, 8, 9 and 10 commencing on Tuesday at 10 a m Railroad rates *one fare and one third for round trip tickets*

The delegates shall receive their appointment from permanently organized State medical societies and such county and district medical societies *as are recognized by representation in their respective State societies*, and from the medical department of the Army and Navy, and the Marine Hospital Service of the United States

"Each State, county, and district medical society entitled to representation shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more that half that number *Provided*, however, that the number of delegates for any particular State, Territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association"

Members by Application—Members by application shall consist of such members of the State, county, and district medical societies entitled to representation in this Association as shall make application in writing to the Treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the amount of the annual subscription fee, $5 They shall have their names upon the roll, and have all the rights and privileges accorded to *permanent members*, and shall retain their membership upon the same terms

The following resolution was adopted at the Session of 1888

That in future, each delegate or permanent member shall when he registers, also record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers

Secretaries of medical societies, *as above designated*, are earnestly requested to forward, *at once*, lists of their delegates

AMENDMENTS TO THE CONSTITUTION AND BY LAWS

[Offered in 1892, and laid over from 1893 and 1894]

Offered by Dr C A L Reed—Amend Article II, Section 1, of the Regulations, by inserting after the words United States, "the Dominion of Canada, Labrador, and Newfoundland," and that such other changes be made in the phraseology of the Regulations and By Laws as to make the same conform to this contemplated enlarged jurisdiction of the Association"

By Dr I N Quimby—"That Thursday morning's general session be omitted, and the time be devoted to sectional work"

By Drs John Morris and J G Kiernan—Amend Section 7 of the Constitution, entitled, the General Business Committee," as follows "It shall be the future duty of the General Business Committee to make and present the nominations for the officers of the Association and its standing committees, and recommend *the time and place for the* meeting of the Association

"The General Business Committee of the Association shall perform all duties hitherto performed by the Committee on Nominations, which is hereby abolished All sections of the Constitution and By-Laws, or parts thereof, inconsistent with the amendment, are hereby repealed"

By Dr F F Dow—Amendment to the Constitution, to be known as Article VIII, entitled "The Code of Ethics" "The relations of the physician to the patient, to the public, and to the profession require that he shall be of good moral character, and in his personal and professional conduct without reproach, that he shall avoid pretense and notoriety, that he shall properly qualify himself for professional duty by broad and liberal studies in letters, sciences and arts, that he shall employ reasonable and reputable methods of practice, that he shall respect the laws of the State, that he shall encourage efficient means for the enlightenment of public opinion regarding the responsibilities of medical men and the relation of the citizen to public health, *for the cultivation of medical* education, for the promotion of the interests, usefulness, and honor of the profession, for the emulation, concerted action, and friendly intercourse among those engaged in it

"Substituting the Roman numerals IX for VIII

"All Articles, By-Laws, and Codes inconsistent with this amendment are hereby repealed"

By Dr J H Rauch—"That on and after July 1, 1897, no one will be admitted to membership in the American Medical Association who has not studied medicine for four years, and attended four annual courses of lectures of at least six months' duration"

By Dr F F Dow—Amend By-Law No XI, relating to the Judicial Council The second clause of paragraph 3 shall be amended to read as follows "The decisions of said Council on all matters referred to it by the Association shall be reported at the earliest practicable moment, and shall be final unless revised by the Association"

By Dr A B Hosmer—"Whereas, The constantly increasing number of papers on general surgical subjects presented each year at the Surgical Section of this Association, the reading and even restricted discussion of which prohibit the introduction of any considerable number of papers on strictly orthopedic subjects, which might not prove of universal interest to the general surgeon, and

Whereas, There are already a sufficient and rapidly increasing number of members of the Surgical Section of this Association especially interested in this branch of surgery to warrant it, therefore be it

"*Resolved*, To amend Article II of the By-Laws by the addition, under the heading Sections, and after 12, Physiology and Dietetics, the following, 13, Orthopedic Surgery

By Dr J T Priestley—"The entire report on Constitution, etc, as offered in the report of Dr Holton at San Francisco"

ADDRESSES

On General Medicine, by Dr William E Quine, Chicago, Ill, on General Surgery, by Dr C A Wheaton, St Paul, Minn, on State Medicine, by Dr H D Holton, Brattleboro, Vt Committee of Arrangements, Dr J J Chisolm, Chairman, Hotel Stafford, Baltimore, Md

All members of the Association, and members of the medical profession generally, are urged to attend the Baltimore meeting

William B Atkinson, Permanent Secretary

PUBLIC HEALTH

Tenement-Houses Must Have Adequate Water Supply—The New York City Board of Health has recently won a victory in the Court of Appeals over the rich and powerful Trinity Church corporation The fight has been waged for years with varying success, but it seems that the court of last resort has given the right of way to the Health officers The following is a paragraph from a telegram dated February 26

"The church corporation neglected to furnish water on each of the floors of the buildings 77 and 84 Charlton Street and after the Health Department had ordered them to put the water in neglected to do so The Department fined them $200 at $10 a day for every day of neglect after the order was issued The church trustees contended that the houses were not tenements, but were built for residences, and although used as tenements now, did not come under the provisions of the act The case was decided in favor of the city, and judgment of conviction, entailing a fine of $200 issued The church corporation asked for a new trial on questions of law and the General Term granted it The Court of Appeals reverses the decision and denies the new trial"

Neglect of Vaccination in Italy—During the recent smallpox incidence, it was noted that an undue proportion of cases occurred among the Italian contingent of the population The experience of Dr James Leishman, surgeon of the steamer *Scandia* of the Anchor Line, throws some light on the cause He says "In 1894 I examined over eight hundred Italian emigrants for vaccination according to American law I regret I did not retain exact figures of results, but many men even of military age had somehow escaped, and more women, while fully half of the children had no marks On my last voyage, out of 100 children I had to vaccinate over 60 The figures would be more unfavorable if I could subtract those vaccinated just previous to the voyage and those who preferred doing it at home I was more than surprised to find it is supposed to be universal. These were mainly peasants from the southern half of Italy While I am writing, I may say that Scandinavians are very carelessly vaccinated, many who have certificates showing no marks, Scotch are rather better, German and Irish are far superior and practically perfect The Italian lymph is excellent Other ship surgeons I have no doubt could corroborate me"

Health of Paris—The last official census of the French capital was that of 1891, which fixed the population at 2,424,705, the figures still quoted in the issues of the *Bulletin Hebdomadaire de Statistique Municipale* for 1894 Based on this population, the mortality last year was lower than the average mortality of the previous ten years, being at the rate of 20 20 per 1000 of population On the same census figures, the death rate for 1891 was 21 55, for 1892 it was 22 49, and for 1893 it was 21 83 per 1000 Since there was an increased birth rate in 1894, this lowered death rate can not be due to loss of population, and the actual number of deaths shows that Paris was unusually healthful in 1894 Last year 48,992 deaths were registered, in 1893, 52,955, in 1892, 54,536, in 1891, 52,262, in 1890, 54,566, in 1889, 54,083 Thus in 1894 the mortality is 4,725 lower than the average With the exception of short epidemics of typhoid fever and of smallpox, these forms of disease were rare during 1894—during the last six months especially so The deaths from typhoid fever in 1894 were 695, in 1893, 570, in 1892, 692, from smallpox, 173 deaths in 1894, 260 in 1893 Measles caused most deaths during May, afterward the cases were quite exceptional in 1894, the deaths were 988, in the previous years they were 677 and 909 Scarlet fever 149, the previous years 177 and 158 Whooping-cough 248 instead of 508 and 334 Diphtheria 1,009, instead of 1,266 and 1,403 Deaths from lung diseases were considerably less, and notably contributed to the lowering of the death rate

Transportation of Contagious Disease Corpses—A case was recently tried before Judge Abner Smith in the Circuit Court of Cook County Illinois, in which suit was brought against the Chicago and Northwestern Railway Company to recover damages for refusal to carry the dead body of plaintiff's child, the child having died of diphtheria At the time the corpse was offered, Dec 26 1891, the rules of the State Board of Health of Illinois permitted the transportation of corpses of persons dead of diphtheria under certain regulations, placing them in the second class mentioned in the rules About a year previous to that time the State Board of Health of Iowa and those of several other Western States hanged diphtheria and placed it in the first or prohibited lass, so as to forbid absolutely the transportation in public onveyances of bodies of persons dead of diphtheria When hat change was made, the company, as it had lines in many f the States changed its rules to correspond with the hange made by those Boards of Health, and, as a result, at he time the body of the plaintiff's child was offered for ransportation the rule of the company forbade its trans ortation, although such transportation was permitted by he rules of the Illinois State Board of Health The plaintiff claimed as damages the expense of transportation by arriage from Chicago to De Kalb, Ill, and the extra ex ense of preparing the corpse for transportation, in all some 60 The facts being admitted, there was only a question f law involved and that was—Whether the rule of the ompany forbidding the transportation of such a corpse as a reasonable one Judge Smith held, as a matter of w, that it was a reasonable rule which the company had right to make and enforce and therefore the plaintiff ad no right to recover damages

Contagious Diseases—The actual extent of the smallpox Hot Springs and elsewhere in the lower Mississippi Valey can only be surmised, the sole sources of information, the absence of official reports, are the newspapers and ese vary widely—one recent account says there has been nly a single case in the popular sanatorium and that conalescent, while, within forty eight hours after, mother as rts that there were forty one cases under treatment at the eginning of the month Quarantines are rife in Arkansas d Texas and travel has been somewhat impeded in conquence The disease continues to spread in St Louis and *reported* subsiding in Chicago Milwaukee and throughout e territory north of the Ohio River

Influenza, diphtheria, pneumonia and bronchitis have ineased in prevalence and severity since the first of the onth In this country, however, *none of the diseases*—except, possibly, diphtheria—is so prevalent or so severe as in reat Britain and on the Continent Especially as to influza, which, it is asserted, was never so widespread in any evious epidemic In London, doctors and nurses have been culiarly stricken, so that it has been *almost impossible* to cure medical attendance The New *York Sun* correspondt says that one of his neighbors suffering with the prevailg distemper was *attended February 27* by a physician, e next day the physician was ill and sent a substite, the third day a third doctor *attended*, because the cond had fallen a victim, on the fourth day, a substitute the substitute sent a substitute because the first three re all in bed An Associated Press dispatch of the 2d st says the statistics of the Sanitary Bureau of Berlin ow that three fourths of all the sickness in that city at esent is *due to* influenza It is noted that the complaint, ich was at first of a mild character, has grown much more ngerous, and the *number* of deaths from influenza and its mplications during the week has reached several hundred the Reichstag the usual *attendance* dropped to about rty, some one hundred and fifty members either suffering recovering from an attack The *total number* of cases in rlin is estimated at from thirty to forty thousand We ve had nothing approaching these figures in *any American* y, although the death roll of 'old age" has been largely ollen by the disease

During the first month of 1895 Asiatic cholera was re rted in Austria Hungary, Belgium, Brazil, France, Gerany, Holland, India Russia and Turkey There were ported during *that time 3 471* cases and 1,893 deaths Sanry Inspector Cleary, M H S, writes, under date Rio de neiro, January 22 (*Abstract of Sanitary Reports*, March 1) at the disease appears to be drawing to a close in the origal localities in Brazil and the Argentine States, but is tending farther into the State of Minas Geraes and down e Parahyba River to the north and is now in the neighborod of Sao Fidelis, near its mouth "The authorities are ry energetic, and intelligently apply proper disinfections, lations and removals in all suspected cases, and I believe at it is in *consequence* of these measures that this town is t as yet afflicted with cholera" Dr Cleary adds "I ve never known a *summer* here with so few cases of motic diseases as this *one*, among the shipping there are ne"

BOOK NOTICES

A Manual of Diseases of the Ear *for the use of Students and Practitioners of Medicine By* Albert H Buck M D, *Clinical Professor of the Diseases of the Ear, College of Physicians and Surgeons, Columbia College New York, Consulting Aural Surgeon, New York Eye and Ear Infirmary, and the Presbyterian Hospital* Second revised edition, one volume, post octavo, 107 pages, illustrated, with blank memoranda pages at the back, extra muslin, price $2 50 New York Wm Wood & Company 1895

This edition of Buck's excellent manual on diseases of the ear is well adapted for the use of students and general practitioners A new chapter entitled 'Analysis of Symptoms" has been added, and the section on chronic purulent inflammation of the middle ear has been re written The new chapter on 'Analysis" occupies fifteen pages and it will be found extremely useful in diagnosis The list of these symptoms," says the author, ' is not very long, it comprises impairment of the hearing, subjective noises, the phenomenon of hearing better in the midst of noise, the sensation of something moving in the head when the head is moved, a sensation of fullness in the ear, unnatural resonance of one's voice in the affected ear pulsation or throbbing, itching, soreness or pain, painful mastication, discharge from the outer canal, dizziness, numbness, and possibly one or two others"

In suppurative disease of the mastoid antrum, the author says ' In all cases of comparatively recent origin, we must not forget one well established fact, namely, that the majority of them will, in one way or another, get well without operation" He admits the frequent formation of fistulæ, and those accidents fatal to hearing which supervene on cases left to themselves and he frankly admits that the chances of recovery without operation are very small in those cases where the cerebral complications are marked In pyemic cases he considers operative measures urgent Even in those cases of recovery without operation, convalescence has been so slow and tedious that operation would have been preferable Explicit directions are given for trephining the mastoid antrum, and the author very properly, as we think prefers the chisel to the trephine He mentions after Macewen, accidents that have happened by improper or careless use of the chisel, such as hemorrhage from the sigmoid sinus, and rough fragments, both of which are to be avoided, the one by care and the other by the use of the rongeur to smooth the edges of the bony opening The danger of opening the sinus in these cases is not so much from hemorrhage (for that may be easily controlled by gauze packing) but from septic *infection* direct from the abscess cavity

Twentieth Century Practice, an International Encyclopædia of Modern Medical Science by leading Authorities of Europe and America Edited by THOMAS L STEDMAN M D In twenty volumes Volume I, Diseases of the Uropoietic System Royal 8vo, cl, pp 737 New York William Wood & Company 1895

The nineteenth century is now so near its close that not much is probably required to anticipate the particular advances of the next four and a half years, but there is a possibility that there may yet be valuable discoveries added to the glorious record of the present century This possibility has been recognized by the editor, who explains why, in the arrangement of subjects, the diseases of the uropoietic system occupy the initial volume He says "In arranging the order of subjects it has been thought best to reserve the consideration of infectious diseases for the later volumes in the hope that by the time they are published, a solution of some of the problems in the pathogenesis and therapy of these affections as yet but partially worked out, will have been reached"

The contributors to the present volume are Francis Delafield, M D, LL D, of New York, on "Diseases of the Kidneys," Mr Reginald Harrison, F R C S, of London, on "Diseases of the Kidneys (Surgical) and of the Ureters," also "Diseases of the Bladder," G Frank Lydston, M D, of Chicago, on "Diseases of the Prostate," and ' Diseases of the Male Urethra," Mr E Hurry Fenwick, F R C S, of London, on "Diseases of the Urine," and Howard A Kelly, M D, of Baltimore, on the "Diseases of the Female Bladder and Urethra"

The tendency of the time toward operative interference in most diseases is here shown, as with the exception of Professor Delafield, all the writers in this volume are surgeons and write from a surgical standpoint Mr Harrison gives full credit to Van Hook and Finger, for their luminous expositions of the surgery of the ureters (published in full in this Journal) In speaking of renal hydatids, he quotes Osler, of Baltimore, as saying that ' it is rarely met with and in the inspection of over eight hundred bodies only three instances have been found" Hamilton's case (see this Journal, Oct 7, 1893) is not mentioned The article of Dr Kelly gives a full and very clear exposition of the methods of examination of the female bladder, and catheterization of the ureters Dr Lydston writes with his customary circumspection, in speaking of castration in prostatic disease he says

> "The most recent operation for the relief of enlarged prostate seems to be meeting with some success The author has had no experience with it, but it is worth considering, provided the patient's virility has disappeared, otherwise it is better to construct an artificial supra-pubic urethra, with or without operation on the prostate proper Castration is an operation not to be lightly undertaken as certain historical medico-legal cases have shown Should future experience demonstrate that it is frequently successful, the surgeon should still exercise the greatest circumspection in the performance of this operation A patient who appears perfectly reconciled to the loss of his testes may subsequently look at the matter in a different light, there is a suggestion of grim humor in the new procedure, the oophorectomy craze of the recent past is still a vivid recollection"

Materia Medica and Therapeutics for Physicians and Students By John B Biddle, M D Thirteenth edition, revised, rearranged and enlarged, with special reference to therapeutics, toxicology, the physiologic action of medicines, and containing all the preparations and remedies described in the U S Pharmacopœia of 1890, to which the work has been made to conform By Clement Biddle, M D, U S Navy, with numerous illustrations Philadelphia P Blakiston, Son & Co Chicago E H Colegrove & Company 1895 Price $4

So far as a notice can help or harm a book there is no particular use in a journalistic notice of Biddle's "Materia Medica," a book almost as staple as flour, and a title page as familiar to the profession as a picture of the front of the Capitol It is sufficient to say that the thirteenth edition of this standard work has been revised to conform to the requirements of the new Pharmacopœia, and all its elements of popularity have been retained We venture to suggest to the compiler of the fourteenth edition, that he give the dosage in the decimal or metric system in the text of the book as well as in the appendix The publication of a posologic table in an appendix is valuable, as we can not have too much of a good thing, but the text of the articles itself should show this change of system

A Practical Theory and Treatment of Pulmonary Tuberculosis By Frank S Parsons, M D, editor of the *Times and Register* Paper, pp 77 Philadelphia Medical Publishing Company 1895

The author begins his brochure with the query whether pulmonary tuberculosis is curable, and answers it by saying 'undoubtedly" He recommends proper individualization of cases and then oxygenation by hydrozone and glycozone, general treatment by climate, hygiene and exercise, diet of carbohydrates, et cetera The author has brought out his ideas in an attractive form, and his conclusions are logical We notice also that it is being printed as a serial in the *New England Medical Monthly*

The Physician's Vade Mecum, being a Handbook of Medical and Surgical Reference, with other useful Information and Tables By Sebastian J Wimmer, M A, M D With additions by Frank S Parsons, M D, editor of the Philadelphia *Times and Register* Cl, pp 483 Price $1 Philadelphia The Medical Publishing Company 1894

This is a convenient little book of reference for general practitioners and druggists The "Physician's Interpreter," in English, French and German, is a new feature in a book of this kind, and a useful one Some acquaintance with those languages is necessary in order to use the dialogue, as unless pronounced properly, the words will not be understood There are over one thousand prescriptions in the book, all written in the old British system of weights and measures A posologic table in another place, however, gives the decimal system of dosage

SELECTIONS

Echinococcus of the Right Ovary with Multiple Echinococci of the Peritoneum—According to W A Freund and Schatz, the development of echinococcus in the human ovary have not hitherto been proved The seven cases collected from literature by Schatz are in his opinion not reliable, two other cases found by the writer speak with probability for echinococcus of the ovary In one case of his own, which was operated on with good result, the writer attempts to prove that there was an autochthonous development of echinococcus in the ovary The nature of the tumor was manifest from its smooth inner surface which was profusely covered with broad capsules and scolices, also from the daughter and grand daughter cysts inclosed in the tumor The proof that the tumor was, in fact, ovarian, is derived from its position and its relation to the parovarium and tube At no point in the tumor wall was ovarian structure demonstrated, a point which the writer asserts is an argument for his position that the echinococcus exercising like pressure on all sides, was developed in the midst of the ovary —*Centralblatt für Gynäkologie*

The Practicability of the Murphy Button for Anastomosis —Chaput has stated his opinion before the *Societé de Chirurgie* on the usefulness of the Murphy button as follows 'On the cadaver the largest sized button in ten cases out of twelve could pass the jejunum only with the greatest difficulty, twice it was altogether impossible The cause lies in the lumen of the bowel, which, in eight cases, yielded the following figures 41, 27, 27, 26, 45, 37, 27 and 21 mm, and in four cases, inflated, 100, 70, 73 and 68 mm, on the other hand, the circumference of the Murphy button shows the following measurements 66, 78 5 and 84 mm Accordingly the bowel is absolutely too narrow for the highest two numbers On the basis of these experiments, Chaput states the following opinion, that the use of the highest two numbers, if it is to pass the jejunum, is directly contrary to common sense and that even the lowest can possibly catch at the end of the ileum

"In eight experiments on dogs, he had the following results Four recoveries and four deaths In two favorable cases the expulsion of the button took place on the eighth day, in two others the buttons remained *in situ* when the animal was killed The Murphy procedure does not induce stenosis of the bowel Of the four other dogs, three died of peritonitis with necrosis of the intestine, in the four gastroenterostomies the gut slipped out from the button and the intestinal contents were discharged into the abdominal cavity

In man, Chaput had the experience once of finding that the ends of the rectum resected for carcinoma, could not be brought togther with the button, in another case, after resection of the ascending colon, the patient died in forty-eight hours, and at the post-mortem the bowel was found almost perforated, and the lumen of the button obstructed by a hard fecal mass —*Centralblat für Chirurgie*

Cystitis in the Female —The *Wiener Klinische Rundschau* has the following abstract of a paper by Dr Zuckerkandl "Granting the fundamental fact that, as a rule, the simple admission of pathologic germs into the bladder is not followed by inflammation, but that in some way an abnormal condition of the bladder wall must be created, the writer distinguishes in the female

1 Cystitis from hyperemia of the bladder Between the fundus of the bladder and the uterus there exists a connection in blood supply Therefore it happens in the gravid state that various inflammatory processes in the uterus and its adnexa, and other conditions which follow congestion, are accompanied as well by hyperemia of the bladder wall On this soil a cystitis is easily induced, spontaneously, if germs pass from the urethra into the bladder, as quite frequently happens in catheterization Cystitis also arises from hyperemia of the bladder in conjunction with the operative separation of the posterior wall of the bladder

"2 Cystitis from insufficiency *a*, from malposition of the bladder lateral version, prolapsus descensus vesical, and tumors, which render it impossible that the bladder contracts normally, *b*, from retention post partum in consequence of the softening of the mucous membrane, *c* from involution of the bladder In old women who have borne many children, the bladder is dilated, the mucous membrane becomes atrophied, thin and pale and the sphincter and detrusor become insufficient (Chevalier, in 1891 portrayed a similar condition as prostatism in the female)

3 Traumatic cystitis for example, necrosis from pressure in childbirth"

The writer further made mention of the transmission of pathogenic germs from neighboring organs for example the intestines into the bladder, and the possibility of accompanying hyperemia The spontaneous migration of germs from the urethra naturally does not act as an opposing factor, on the contrary, in doubtful cases an antiseptic injection should follow catheterization

In the discussion that followed Dr Mackenrodt (Berlin) combatted the idea of a connection between the bladder and the uterus through the larger arteries, and even a capillary connection, in the separation of these organs from one another, neither any considerable hemorrhage, nor a disturbance of circulation takes place During pregnancy the blood pressure is increased in all the abdominal organs, consequently in the bladder As an etiologic factor in cystitis he would further mention the sacculation which is observed not merely after laparotomy, but especially in pelvic peritonitis

In closing, Dr Zuckerkandl stated he had at the last moment forgotten to mention in his paper these shrivelling processes, as results of pelvic peritonitis He insisted that a connection in the blood supply between the bladder and the uterus does exist and is formed through venous trunks, three or four of which, on each side, run backward from the posterior wall of the bladder in the loose cellular tissue

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The Forty sixth Annual Session of the AMERICAN MEDICAL ASSOCIATION will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

SOCIETY NEWS

Kings County (N Y) Medical Association.—I desire herewith to notify you officially of the duly elected officers of the Kings County Medical Association, of New York, for the year 1895 President, J C Bierwirth, Vice-President, N W Leighton, Recording Secretary, F C Raynor, Corresponding Secretary, H C Riggs Treasurer, E H Squibb Elected members of the Executive Committee Jonathan Wright, term expires January, 1896, J D Rushmore, term expires January, 1897, R M Wyckoff, term expires January, 1898, T M Rochester, term expires January, 1899 H C Riggs, M D, Corresponding Secretary ——The first meeting of the Southwestern Medical Association was held in Creston, Iowa, February 26 ——A regular meeting of the St Louis Medical Society was held February 23 ——The Luzerne Medical Society held a meeting February 20 ——The Northern Berkshire Medical Association held a regular meeting at North Adams, Mass, February 21 ——The third annual meeting of the Austin Flint Medical Association of Lawrenceville, Pa, was held February 26 ——The quarterly meeting of the Onondaga County Medical Society was held February 26, at Syracuse, N Y

MISCELLANY

Busy Bacteriologists —A Berlin letter of the 20th ult, says that the scientific men of the day who are making investigations in bacteriology are as feverish as were the prospectors for gold in California half a century ago They all feel themselves on the eve of great discoveries, especially since Behring hit upon his *heilserum*, the panacea for diphtheritic troubles The laboratories of Pasteur and others of eminence are already crowded, and the young men who go to Paris hoping to gain admittance into such workshops must have done enough in bacteriology to warrant the expectation that they are to become shining lights in the scientific world

Mortality by Influenza Influenced by Humidity —Sergeant Dunn, of New York City, holds the opinion that a marked relation subsists between the prevalence of certain types of weather and the prevalence of grip His conclusion is that the weather is an important factor in the mortality of grip cases and that the humidity of the air "seems to be the important element in producing or aggravating the disease" He says "The fatality is most marked when the humidity is at its maximum and there is a sudden fall of temperature The higher the humidity and the more sudden the fall of temperature the greater the number of deaths, and it is also observed that when the temperature and humidity drop at the same time there is a sudden decrease of the death rate"

The Health Officer of New York —Dr Alvah H Doty, the newly appointed Health Officer of the Port of New York, is probably the youngest man to receive that important command He was graduated from Bellevue Hospital Medical College in 1875 He was soon thereafter appointed Diagnostician to the Contagious Disease Bureau of the Board of Health, of which he has been Chief Inspector during the past year or two He has manifested great vigor in the handling of the metropolitan problems in contagious crises He has acquired a volume of experience that will not fail him in any peril that may approach the great harbor over which he will be sanitary autocrat Like sundry other sanitarists of his State, he has entered the surgical arm of the National Guard, being Surgeon and Major in the Ninth Infantry Regiment

Some New Properties of Pilocarpin —Hartcop calls attention in *Les Nouveaux Remedes* to pilocarpin which, in his opinion, is unjustly abandoned as a medicament It renders signal service, especially as a sialgogue He gives it subcutaneously in doses of 0 01 to 0 02 grammes It can be used with great benefit first in intracranial hyperemia, uremia, commencing meningitis, chronic meningitis, next in affections of the throat and larynx, especially in edema of the glottis, then in acute renal affections, scarlatinal nephritis and in some affections of the cord and peripheral nerves in the initial stages Pilocarpin also acts as a revulsive In some cases it is advisable to associate it with iodid of potash or the biniodid of mercury The author reports several cases in support of his assertions

Cleansing the Surgeon's Hands —There are three principal methods of cleansing the surgeon's hands in vogue in Germany The one most commonly employed is that of Fürbringer, which consists in brushing the hands and nails with soap and hot water, then dipping them in an 80 per cent alcohol solution, and finally washing with a 2 per cent sublimate of mercury, each part of this proceeding to last one minute Reinecke, of Leipzig, asserts that a sure disinfection of the hands may be obtained by rubbing them with alcohol only and washing afterwards with pure sterilized water, the alcohol dissolves the sebaceous substance on the surface of the skin, thus enabling the bacteria which adhere to it to be easily washed away Schleich rejects all brushing, and only washes the hands with a soap invented by himself, which consists of domestic soap (one part), marble powder (three parts), and lysol (4 per cent of the whole), this soap cleans less by chemic than by mechanical means, the fine marble powder penetrating into all the folds of the skin and rubbing away all dirt and detritus

Alcoholism in Russia and Switzerland.—A new law regulating the sale of alcoholic drinks has been in effect since the first of this year in some parts of Russia It received the imperial sanction June 6, 1894, and it is believed by the *Gazette Medicale de Liege* that it will undoubtedly diminish the consumption of alcohol It is now in effect in the provinces of Perm, Oufa, Orenburg and Samara Committees, comprised of the principal men of the locality who are best acquainted with the habits of the community, are constituted in each village and are to be known as "Guardians of Temperance" Their duties will be to aid the State in reforming the sale of alcoholic drinks, to make the dangers of alcoholic abuse known by local conferences, and to establish temperance cafés where men may find the attractions usually inseparable from alcohol Switzerland is the best organized country for the contest against alcoholism On Sept 30, 1893, the Society of the Blue Cross numbered 241 groups with 11,143 members, 4,118 of whom were reformed drunkards Its activity is unrivalled, favored as it is by the strict legislation governing the sale of alcoholic drinks in Switzerland It has founded temperance cafés in Geneva and several other large cities and several have been started by private parties as a speculation

The Forty-sixth Annual Session of the American Medical Association will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

An International Language for Medicine —Dr Manassein, of St Petersburg, is in favor of adopting French as the international language for medicine, which prompts Dr Keser to write to the *British Medical Journal* giving some reasons for this adoption After disposing of Latin, Greek and German he adds "We are thus limited to English and French English is a simple and useful language, probably the best for written communications, but it is much more difficult to understand and to speak than to read and write As a means of international communication orally, English is decidedly inferior to French, the pronunciation is very difficult and the clear production of its sounds requires considerable effort French is already the universal language of the diplomatic corps If I may judge by frequent meetings with foreigners, it is in more universal use than English among physicians in Russia, Germany, Spain, Italy, South America, Greece and Turkey No language compares with it for clearness and precision The use of French is widespread in England, where it is positively rare to find an educated physician without some knowledge of it Most of them make excellent scholars without much difficulty" Keser concludes 1, it is highly desirable in the interests of science that some agreement should be reached as to the adoption of an international medical language, 2, no language, living or dead, meets the necessary requirements better than the French

The "Percentage" Slander Repudiated —A member of the New York Academy of Medicine has recently written a letter to the *Herald* of that city, to show how slanderous is the view held by some, that all druggists pay physicians a percentage on all prescriptions The letter was elicited by an alleged humorous paragraph, in a former issue of the *Herald*, declaring that "the doctor draws a fat commission from the till of his accomplice, the apothecary" As the writer remarks, no good end is met by the publication of slurs of that kind, what little effect they have is all in the wrong channel They simply tend to confirm an unjust prejudice unwisely accepted by ignorant laymen The letter states that in two decades of active practice he never met with one such commission-paying druggist The following is a part of the letter "I have practiced medicine for more than twenty years and I am happy to say that no such offer has ever been made to me A physician's reputation and success depends not only upon the skill with which he prescribes, but quite as much so upon the care and accuracy with which his prescriptions are dispensed, and hence he recommends his patient to a certain drug store, or a choice of certain drug stores, where he is sure the conditions will be fulfilled, and he warns them against other stores of a less respectable and frequented class, where unqualified boys are allowed to handle important drugs, where it would be practically impossible to maintain a full line of drugs in good condition and where if they do not happen to have the article called for they do not hesitate to substitute something else"

Hospital Notes

A Public Hospital at Muskegon, Mich, was organized February 26 Charity clinics will be held weekly, and a training school for nurses will be organized in connection with the hospital ——A new hospital for scarlet fever and diphtheria cases will be established in New York, owing to the beneficence of Mrs John W Minturn, of that city, who has given $25,000 toward the erection of an institution for that purpose ——The annual report of the German Hospita at Kansas City, Mo, shows that 321 patients have been treated during the year ——The executive board of the Buffalo General Hospital have approved the plans for the new hospital building in that city, cost not to exceed $150,000 ——Plans have been prepared for the new St Joseph's Hospital for the Insane at Asbury, Iowa The building wil accommodate 210 patients and will cost nearly $75,000

Louisville Notes

Vital Statistics —Flemming County, Kentucky, is one o the few counties in the State in which there is a law makin it compulsory for a return to be made by the physicians, o all births as well as deaths During the past year this ha not been done, and on March 1, warrants were issued fo every doctor in the county for failing to register a list o births and deaths during the year

Lexington's Smallpox —Just when the public mind became at rest over the subject of smallpox in Lexington, ther was developed a municipal scandal in regard to the purchase of the pest-house by the city

Ambulance —The importance of a city ambulance is show by the report of its excellent service for the past mont The ambulance is kept at the City Hospital and is free fo the transportation of the sick or wounded to their homes the infirmaries, or the City Hospital

Mortality Report —The fatality of pneumonia durin February is unprecedented in this city It is impossible t gather any statistics as to the death rate of the total number of cases, but this can be conjectured from the fact tha only three recovered out of fifteen cases at the City Hosp l Later reports may make the rate more heavy During ebruary there were 330 deaths, 90 of which were caused y pneumonia, and 43 by consumption Bronchitis credited with ten deaths, typhoid fever twelve, organic sease of the heart nineteen, cerebral meningitis thirteen, ill born eighteen, old age fifteen During the week there ere ninety eight deaths, and of these twenty six were due o pneumonia, and sixteen to consumption

St Louis Notes

The St Louis Medical Society —At the meeting on arch 2, Dr William Johnston introduced a resolution hich had been signed by Drs Loftus, Pollock, McCullers, Barck, Summa and Ohmann Dumesnil, favoring the passage f the bill now before the Missouri Legislature, which provides for a more rigorous examination of applicants for physicians' diplomas and certificates No action was taken upon the resolution Dr A H Meisenbach reported a case of removal of the tibia Dr I N Love read a paper on the status of diphtheria, pathologically and therapeutically considered

Contagious Disease Report —Following is Chief Sanitary Officer Francis' report for the week ending March 2 Smallpox, cases 14, deaths 13, diphtheria, cases 23, deaths 6, croup, cases 8, death 6, scarlatina, cases 7 no deaths typhoid fever, cases 3, deaths 1, whooping cough, cases 1, deaths 1

Weekly Mortuary Report —The mortuary report of the Health Department for the past week shows the following Total deaths 212, for the previous week, 191, for the week ending March 3, 1894, 162, death rate, 20 per 1,000

Smallpox —During the past three weeks the city has been in more or less danger of an epidemic of smallpox For a week there has been no marked increase in the number of cases, and with precautions taken to prevent the spread of the disease there now seems little probability that the pest will be widespread Vaccination has been placed within the reach of all and enforced when possible Numerous additions have been made to the staff of city physicians for this purpose This outbreak seems to have originated at the race track in East St Louis, the majority of cases have been among the colored population According to reports, small pox has been carried from the same place to Hot Springs, Ark, where 100 cases have already occurred The result so far as the business at the Spa is concerned has been disastrous There has been a wild rush among the visitors to leave, and the "scare" has become so widespread along the Iron Mountain Railway that arriving passengers at all stations are regarded with suspicion

The Medical Building —A project is on foot to erect a ten story office building on Seventh Street between Olive and Pine Streets, to be known as "The Medical" The intention is to have the building given over to doctors for offices, and the rooms and conveniences are to be arranged with that object in view

The Barnes Medical College is about to erect a new building, and convert the old college building into a hospital

The State Legislature has before it a bill to restrict the use of hypnotism This bill is doubtless an outgrowth of the celebrated Kansas murder case in which the principal escaped conviction and the accessory was condemned Strange to say, hypnotism played no part in this remarkable case, and the popular alarm excited was entirely due to the sensational accounts sent to the press by an enterprising reporter

Hospitals, etc —During the past year an unusually large number of deaths have occurred at the State Asylum at Little Rock, Ark, and this increase of the death rate has been attributed to bad diet and improper sanitary conditions The matter is now under investigation by a legislative committee

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The Forty sixth Annual Session of the American Medical Association will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

Philadelphia Notes

Dr Carl Seiler has resigned his position as Clinical Professor of Laryngology at the University of Pennsylvania, owing to impaired health

Jefferson Medical College —Dr William Thomson has been elected Professor of Ophthalmology, thus giving him a full chair in the Faculty Dr Howard F Hansell has been appointed Clinical Professor of Ophthalmology Prof James C Wilson has taken charge of the Hospital, to succeed Dr L L Montgomery under whose administration the institution, during the last two years had greatly prospered In consequence of the differences of opinion three members, including the President of the Board of Trustees of this institution have resigned, their places have been filled It is understood that in consequence of this change, the project of removal of the buildings to a location on South Broad Street has been postponed indefinitely As reorganized and complete the Board of Trustees now consists of the following gentlemen President, Joseph B Townsend, Secretary, Simon Gratz, Treasurer, Edward H Well, Hon Joseph Allison, Hon Michael Arnold, Henry D Welsh, Sutherland M Prevost, Thomas B Wanamaker, Col Edward Morrell Luther S Bent, Hon Wm Potter Jr, and the newly elected members, L C Vanuxem Samuel Gustine Thompson, William Henry Newbold and Louis A Biddle

The Medico-Chirurgical College is about to sever its relations with the Philadelphia Dental College and will probably start a dental department of its own

The Norristown Insane Asylum has just been investigated by a legislative committee, charges having been made of cruelty, mismanagement, etc The committee after several sessions adjourned February 23, until next month, practically admitting that there is not the least basis for a suspicion of mismanagement Criticism of the system of keeping the accounts has been made, however, by individual members of the committee Dr Alice Bennett pointed out the fact that the transfer of the able bodied dements and chronic cases to the Wernersville State Asylum will tend to increase the expense of running other hospitals This may be measurably true, but the principal object in establishing the hospital for the chronic insane at Wernersville was to give employment to many dements who were kept in idleness in the other State hospitals, and who since their transfer have been engaged in assisting in building the new hospital The same committee has investigated charges of cruel treatment of patients at Wernersville and has found no foundation for the statements

Early Diagnosis of Diphtheria —In consideration of the importance of early and correct diagnosis in suspected cases of diphtheria, special facilities are offered by which bacteriologic investigations can be had without expense Thus the Laboratory of Bacteriology of the Philadelphia Polyclinic, undertakes free of charge, the examination of the exudation in suspected cases of diphtheria, and to report to physicians the bacteriologic diagnosis Sterilized swabs and blood serum tubes, together with instructions for the method of procedure, can be obtained at the laboratory with instructions for their use

Curiosities of Coroner's Office —Among the curiosities of the coroner's office, is noticed the case of death of an 8 months old baby by getting a marsh mallow in her throat She was promptly taken to the Woman's Homeopathic Hospital, but it was not found possible to prevent a fatal result

A demented woman, 31 years of age, drank a solution of blue heads of matches, and died in consequence in forty-eight hours This is the second death lately from this cause, a woman having dropped a box of matches into a cup of tea and then drank the tea, with phosphorous poisoning as the result There have also been several suicides from swallowing carbolic acid, and others have occurred from shooting or hanging, as a result of the depression following an attack of the grippe

The Influenza has prevailed to a very moderate degree this winter, but singularly enough has attacked the members of the medical profession to such an extent as to fully warrant the opinion of its contagious character

To Remove the Municipal Hospital —An attempt to remove the Municipal Hospital from its present location near Lehigh Avenue and Broad Streets has failed, a sub committee of Councils having presented an adverse report A similar result attended the attempt to have the Philadelphia (Blockley) Hospital removed some weeks ago

Dr Howard J Taylor, Medical Inspector of the City Board of Health in his Annual Report for 1894, stated that there had been 3,159 cases of diphtheria, an increase of 10 cases and 131 deaths over the previous year, 1,922 cases of scarlet fever, a decrease of 927 cases and 114 deaths, and 126 cases of smallpox, an increase of 83 cases Of these, there there were treated in the Municipal Hospital 465 cases of diphtheria, 139 of scarlatina, and 83 of smallpox From March 7, 1894, to Dec 31, 1894, 1,945 deaths from consumption were reported to this department, and in all of these cases, except where the death occurred in a hospital, the houses were visited by the assistant medical inspectors, and in most cases fumigation or disinfection was done

While there was only an increase of ten in the diphtheria cases, the increase in deaths was in much greater proportion, indicating the more malignant character of the disease, notwithstanding a more efficient system of disinfection has been in operation during a portion of the year In addition to the sulphur fumigation in every case there has been used a solution of bichlorid of mercury in the form of a spray, whereby every portion of the room and furnishings have been thoroughly treated

Quarantines were maintained in all cases where a doubtful compliance with necessary regulations seemed probable

A marked increase in smallpox cases developed late in the year, and it is to be apprehended that the disease will continue without abatement during the winter months Thus far it has prevailed with but few exceptions in two opposite sections of the city, the northeast and northwest With the extensive vaccination now being done, it is to be hoped that this scourge may be confined within its present limits

Bacteriologic Laboratory —Councils have approved the recommendation of the City Board of Health to establish a bacteriological laboratory, and a competitive examination has just been held for the position of Director of the Laboratory

The Health of the City —There have been a few cases of smallpox in the city this winter, not more than seventy or eighty at a time, and of these two-thirds have been treated in the Municipal Hospital and one-third quarantined in their own homes which are placarded by order of the Board of Health On February 25 an interesting case was decided by the city solicitor A young man suffering with smallpox was reported to the authorities who decided that he should be removed to the hospital, to this his parents strenuously objected insisting that he should be cared for at his own home Inasmuch as the health authorities had decided that it was not safe to treat him in his own house, which was in a populous neighborhood, they appealed to the city solicitor, who decided that according to the act of 1878, the city had the power to remove such a person 'when he could not properly be treated in his own home," and that the act contemplated the safety of the general community rather than the convenience of the individual by the phrase 'proper treatment" With the aid of the city police, the patient was removed from his home, placed in the ambulance and taken to the hospital The parents are highly incensed and are threatening a suit against the city for damages, for removing the patient and disinfecting the premises

Within the first five weeks of the year there were reported more cases of smallpox and as many deaths as occurred during the whole of 1894 There were reported 135 cases and 13 deaths, but Dr Ford, President of the Board of Health states that there is not the least danger of an epidemic to be apprehended In the meantime every one has been getting vaccinated and it has been made obligatory upon the school children by order of the Board of Education

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THE PUBLIC SERVICES

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from Feb 23 1895, to March 1, 1895

First Lieut Frank T Meriwether, Asst Surgeon U S A, is granted leave of absence for six months, on account of sickness

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending March 2, 1895

Medical Director A A Hoehling, detached from Naval Hospital, Chelsea Mass, and granted three months' sick leave

Asst Surgeon Ammen Farenholt, detached from the Norfolk Navy Yard and ordered to the U S S "Baltimore"

Asst Surgeon C P Kindleberger, detached from the U S R S 'Vermont," and to the Norfolk Navy Yard

Asst Surgeon Arthur W Dunbar detached from the Naval Laboratory and Department of Instruction, and to the U S R S 'Vermont"

Medical Inspector J B Parker, detached from duty in connection with the investigation of the Ford Theater disaster, and to the Hospital and Yard, Portsmouth, N H

Medical Inspector D McMurtrie, in addition to present duties, to duty in connection with the investigation of the Ford Theater disaster

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the thirteen days ended Feb 23, 1895

Surgeon H R Carter, to assume temporary command of Cape Charles Quarantine, during absence of P A Surgeon T B Perry, Feb 27, 1895

P A Surgeon P C Kalloch, directed to rejoin station, Cincinnati, Ohio, Feb 21, 1895

P A Surgeon T B Perry, to proceed to Brunswick, Ga., Quarantine, for temporary duty, Feb 27, 1895

P A Surgeon E R Houghton, , granted leave of absence for two days, Feb 18, 1895 Leave of absence extended five days, Feb 22, 1895

Asst Surgeon Rupert Blue, to proceed to San Francisco, Cal, for duty, Feb 23, 1895

LETTERS RECEIVED

Anderson, Winslow, San Francisco, Cal Allen, R G Peoria

Brumder, Geo Milwaukee, Wis Barker, E O, Guthrie Okla Billings, Clapp & Co, Boston, Mass Bovinine The Co, New York, N Y Bulson, A E Fort Wayne Ind Baker H B, Lansing Mich

Canton Surgical & Dental Chair Co Canton, Ohio Clarke A P, Boston, Mass Cain, J S Sewanee, Tenn Clarke Robt & Co, Cincinnati, Ohio

Damrell & Upham Boston, Mass, Doliber, Goodale Co, Boston, Mass, De Pode, A C, Paris, France, Davidson Rubber Co, Boston, Mass

Eads, S O, Beaver Crossing, Neb

Fairman E W Brodhead Wis Fairchild, Bros & Foster, New York N Y Follansbee Geo Edw, Cleveland, Ohio

Gerhard M U Markleton, Pa Gage Homer Worcester Mass Gilpin Langdon & Co, Baltimore, Md, Greenbaum, S P, Louisville Ky Gray Geo D, Haynes, Ark

Haller, F B Vandalia, Ill Hummel, A L, Philadelphia, Pa Hyman & Schambs Cleveland, Ohio

Ill, E J, Newark, N J

Jenkins, J F Tecumseh, Mich

Kempker, J F, West Burlington, Iowa

Login B New York, N Y Lea Brothers & Co, Philadelphia, Pa, Lawrence J C & Co New York N Y

McLain, A M Irwin Pa Merrill The Wm S, Chemical Co Cincinnati, Ohio Mariani & Co New York N Y Matthews J P Carlinsville Ill McCambridge, P H, Stewardson, Ill McCulley, D M, Independence, Kan MacAlister, J G W, London, Eng

New York Phamaceutical Co, Bedford Springs Mass

Owsley, Wm T, Washington, D C

Pleek, S M, St Louis, Mo Publisher's Collection Agency St Paul, Minn Paul Kegan, Trench, Trübner & Co Ltd, (2) London Eng

Reese, D J, Renona, Pa

Sawyer C P Wareham Mass Shearer, G H Philadelphia Pa, Schering & Glatz, New York, N Y Scheiffelin, W H & Co New York, N Y Sanderson, A J, Ann Arbor, Mich Sharp & Dohme New York, N Y

Taylor J H Knoxville Tenn Trowbridge, J B Hayward Wis

Weinhagen H New York N Y Warner, W R & Co Philadelphia, Pa Weston Frank R Onalaska Wis

PAMPHLETS RECEIVED

Brown, Chas H M D The Chemic Relation of Ozone and Hydrogen Peroxid Reprinted from the *Medical News* 1891

Wiggins, F Holme, M D Intestinal Anastomosis Reprinted from New York *Medical Journal*, 1894

Connor, Leartus M D Astigmatism as a Factor in Causation of Myopia

Martin Avelino, M D Ozena Verdadero (Rinitis Atrofica Fetida) Barcelona 1894

Foster Burnside M D Notes on a few Clinical Experiences of Inherited Syphilis Reprint from *Northwestern Lancet* 1894

Bibb R H L The Nature and Treatment of Leprosy

Manley T H The Pathology, Symptomatology and Treatment of Hemorrhoids, Simple and Complicated Reprint from St Louis *Medical Review*

Ziegler S Lewis The Treatment of Corneal Ulcer Reprint from New York *Medical Journal*

The Journal of the
American Medical Association

Vol XXIV CHICAGO, MARCH 16, 1895 No 11

ORIGINAL ARTICLES

SKETCH OF THE MEDICAL BUREAU WORLD'S COLUMBIAN EXPOSITION

BY JOHN F OWENS, M D

MEDICAL DIRECTOR OF THE MEDICAL BUREAU OF THE WORLD'S COLUMBIAN EXPOSITION

CHICAGO ILL

ROSTER

Medical Director—Dr J F Owens June 1 1891 to March 31 1894

Attending Physicians—Drs N R Yeager June 1 1891 to Nov 30 1893 W H Allport June 1 1891, to Nov 30 1893 S C Plummer August 1 1891, to Nov 30, 1893 G P Marquis Jan 1, 1892, to March 1 1893 E T Edgerly Feb 1 1893, to Nov 15 1893

Resident Physicians—Drs J L Hillmantel April 10 to Nov 30 1893 D M Appel Captain and Ass't Surgeon U S A May 1 to May 17 1893 W C Baughley May 17 to Oct 30 1893.

Hospital Steward—William Kelly April 7 to Dec 30 1893

Druggists—Harry Kahn, April 16 to Sept 1 1893 F C Cady, Sept Sept 1, to Nov 16 1893

Superintendent of Nurses—Mary R Browne March 16 to Nov 30 1893 (St. Luke's Training School, Chicago)

TRAINED NURSES

Harriet Fulmer Anne Northwood March 15 to April 15 St Luke's Chicago

Karin Eckstrom March 15 to November 15 Stockholm Sweden

Helen Parr April 16 to August 1 Louise Richey August 1 to December 1 St Luke's Chicago (Surgical Nurses)

Bessie Woollings May 1 to June 1, Guy's Hospital London Eng

Emma Dawson May 1 to June 16 St Luke's Chicago

M McDonald E McDonald May 15 to June 15 Boston City Hospital

M Clark A Smith May 15 to June 15 Massachusetts General Hospital

Mary Forbes June 1 to August 15 St Luke's Chicago

Muriel Moberly different terms between June 15 to November 15 St Luke's Chicago

Helen Wiltsie June 15 to July 15 St Luke's Chicago

Susan Read, Mary Townsend June 15 to July 15 Johns Hopkins Hospital

Catherine DeWitt Eliza Moore, June 15 to July 15 Illinois Training School

Clara E Parsons Marie A Lawson, July 15 to August 15 Michael Reese Hospital

Anna Birtle July 15 August 15 Toronto General Hospital

Alice Cooper, Lockhart Baillie July 15 to August 15 Bellevue Hospital

Bessie Woffendin August 15 to September 15 Toronto General Hospital Toronto Canada.

Alice Buckman M L Van Thyne, August 15 to September 15 Philadelphia Hospital

I C Mathis, A N Bartholomew August 15 to September 15, University of Pennsylvania Hospital

Ruth Williams, Helen Barnard, September 15, to October 15 Johns Hopkins Hospital

Martha Munn, Margaret Munn, September 15 to October 15 New York Hospital

Virginia Williams August 15 to October 1 St Luke's, Chicago

Mary Shears July 15 to October 1, St Luke's Chicago

Agnes McCoy July 15 to September 15, St Luke's Chicago

Gertrude Phillpotts September 15, to November 15, St Luke's Chicago

Pauline Hollenbeck, Florence Bell October 1, to November 15, St Luke's Chicago

Elizabeth Pope October 1 to November 1 St Luke's Chicago

Margaret M Watson Annie Louise Higgins October 15 to November 6, St Luke's New York

Nettie West, October 15, to October 30, Michael Reese Hospital

Superintendent of Ambulance Service—H W Gentles, M D, April 10, to November 30 1893

Superintendent of Ambulance Corps—J F Minot April 10, to November 12

Ambulance Corps—C L Hammond W K Hammond H A Adams, John T Hutchcroft, C Brooker J S Brown Edgar Thomas Lucas, M E Wheelan, J H Missey A M Schabad J M Smith, L M Dunavan J C Egan, E B Hutchison H G Graham H B Bartholomew W B Robinson C W Culp Fred Herr J L Allen T H Little M G Bryan Morgan Savidge J W Walker C E Downey L W Dunavan and others

Ambulance drivers—M J Sanborn F H Crein E J Pettinger, D M. Good J H McLernon, J W Tarbell J E Price and others

Orderlies—Claus Williams, A. H Kennedy Chas Webster, N K Derderian J E Johnson

Chief Sanitary Officer—D M Appel M D May 17 to July 26 1893

Sanitary Inspectors—J H Kellogg, Mary Glennon, Anna Byford Leonard

Recording Clerk—Alexander Goldstein, May 8 to first week of December

Stenographer and Typewriter—Anna H Newton

Messenger—Frank Frisbie

Telephone operator—Robert Rozeine

Janitors—A U Brown George Blakey, E Fleming and others

Ward maids—Christine Webster Anne Boettner, Rachel Ellingston

DEDICATION DAY AND THE DAY FOLLOWING

Drs. E T Edgerly, Jennie Hayner Bertha Van Housen

Trained Nurses for the Hospital (Dedication Days)—F Farrow M Moberly F Dawson I Jackson C Fowler *Ward maid*—Rachel McVicker

Trained Nurses at the two substations in Manufactures Building—M R Browne Louise Richey M Bryce, R A Ellerby

Orderly at Hospital—H T Haas

Orderlies at Substation—J W Walker O O Witherbee

Ambulance Surgeon—Dr G P Marquis

Litter bearers on Ambulance—J A Toulling, C Fulling

ORGANIZATION

The last week in May, 1891, the Committee on Grounds and Buildings established the Medical Bureau, and, after a conference with Mr E T Jeffery, Chairman of said Committee, the position of chief medical officer of the Exposition Company was accepted On May 29 the following general arrangement was agreed upon and approved

That the title of the chief medical officer should be "Medical Director," that the appointment be effective June 1, 1891, that the Medical Director shall have authority to appoint, subject to the approval of the Committee on Grounds and Buildings, such assistants as he may deem necessary for efficiency in organization and the prosecution of the work

The duties of the Medical Director were thus formulated To organize a medical bureau having jurisdiction over all cases of personal injury occurring in the line of duty, to assume the care of the resident population and visitors, and such other cases as the Exposition Company might be responsible for, or in its judgment should be cared for, to exercise a supervision over all sanitary and hygienic matters connected with the grounds and buildings, and over all matters pertaining to the health and physical well being of the construction employees engaged in the conduct of the Exposition

In the pursuance of some of the foregoing objects it was decided to establish a temporary hospital upon the grounds and afterward, as circumstances might require, and after conference with the Committee on Grounds and Buildings and the Construction Department, to construct a building better suited to meet the exigencies of the Medical Bureau

The Medical Director was instructed to report to and receive his instructions from the Committee on Grounds and Buildings, and to confer from time to time, as circumstances might suggest, with Mr D H Burnham, the Chief of Construction, or his representatives, in order that cooperation might be secured in accomplishing the purposes in view

It was agreed that the Medical Director should keep such reports and data regarding his bureau as would enable him to make monthly reports to the Committee on Grounds and Buildings, and a final report at the close of the Exposition

Blank pay rolls, vouchers and other stationery required were furnished on the order of the Medical Director upon the Grounds and Buildings Committee

A monthly pay roll for himself and assistants was made by the Medical Director, and the same transmitted to the Committee on Grounds and Buildings, and, at the same time, duly certified bills and vouchers for expenses. The attending physicians treated all cases of illness and injury brought to the emergency hospital, and devoted more or less time to sanitary inspection during the construction period. The grounds were districted in order to facilitate this work.

The large resident population, together with the great number of workmen about the grounds at all times, necessitated the appointment of resident physicians who lived in the emergency hospital. As these gentlemen were required to reside in the hospital they could not, therefore, engage in private practice. The duties pertaining to the office of resident physician consisted for a time in the inspection of grounds and buildings, care of the resident population, they were responsible for the efficiency of the hospital service, for the conduct of the hospital in general during the absence of the Medical Director, they furnished a report of deaths, weekly and daily reports of the work performed and, as occasion required, they aided the attending physicians in the performance of their work.

It gives me pleasure to testify to the ability with which both attending and resident physicians performed their onerous duties, to their loyalty to the service, to the promptitude with which they filled their daily appointments and to the courtesy and helpfulness extended to the sick and injured. All of this largely contributed to the success of this department of the Exposition.

On July 15, 1892, the Medical Bureau was placed under the auspices of Mr. D. H. Burnham, Chief of Construction.

BUILDINGS

For the beginning of the dispensary work, temporary quarters were at once secured in a corner of a room then used by the Construction Department. Soon after, a one-story building was erected, consisting of a waiting room, a sleeping room, an operating room and a store room. This was speedily equipped and occupied July 20, 1891. The hospital was soon after erected, and formed a part of the Service Buildings at Sixty-second Street. Sept. 3, 1892, we moved into this building, but it was at that time mostly occupied by a portion of the clerical force of the Construction Department. Work began here in four rooms. Oct. 19, 1892, the south wards were made available—one for men and the other for women. Feb. 1, 1893, the operating room was secured. April 24 to 28, 1893, the north wards were evacuated by the clerical forces, and still later, the room occupied by the telegraph operators.

The emergency hospital contained on the first floor the following: Two wards of ten beds each for men, one ward of ten and another of three beds for women, Medical Director's office, resident physicians' office, attending physicians' office, office of the Superintendent of Nurses, a diet kitchen, drug room, linen and clothes closet, two examining and operating rooms and closets, reception room and two waiting rooms—one for men and one for women. In addition to the beds above noted, ten rattan lounges were distributed about the wards and corridors. On the second floor were the dormitories for nurses, resident physicians and druggist. No meals were served in the hospital for either patients or staff, but in the diet kitchen the nurses prepared soups, teas and refreshing and stimulating delicacies. It was a rare exception to keep a patient over night.

In cases where transportation of patients to the hospital is rendered difficult or impossible in consequence of dense crowds, temporary substations or portable hospitals should be established. From five to ten beds in each, according to circumstances, would be sufficient in most cases. They answer admirably, provided precautions be taken to prevent the demand from over-reaching the capacity. On such occasions even the passage of carriages through the street on their way to the hospital for the purpose of conveying patients to their homes, railway stations, or hotels, was extremely difficult and time-consuming.

On Chicago Day when there were 716,881 paid admissions, the Exposition being open both day and night, the necessity for these extra provisions was very great.

TRAINED NURSES

The desirability of employing only trained nurses for the emergency hospital was apparent from the outset, but the expenses pertaining thereto would have been considerable at the ruling rates in this city. The scheme finally adopted was as follows: To offer an opportunity to the leading training schools in the country for the representation of their schools by the sending of two trained nurses to serve thirty days at $25 a month, with allowances, such as board, lodging and laundry service. This offer was readily accepted. The nursing force was placed in the charge of Miss M. R. Browne, a graduate of St. Luke's Training School for Nurses, Chicago. Her title was "Superintendent of Nurses." Her appointment was made effective March 15, 1893. Exclusive of the superintendent, at first there were ten nurses, one of whom was called "the surgical nurse." The latter had charge of the operating room and the preparation of instruments for operations, and when on duty, was always in service at the operating table. Each nurse was on duty eight hours and off sixteen hours. In this way they were able, while giving their schools representation in the work, to study the Exposition and at the same time render us that skilled service which is now so much in demand in our own and other countries. They remained in service from 8 A.M. until 11 o'clock at night. After that hour a sufficient force was always available at the hospital at a moment's notice, however great the demand. The following institutions were represented: Bellevue Hospital, New York Hospital, St. Luke's Hospital, New York, Philadelphia Hospital, Hospital of the University of Pennsylvania, Johns Hopkins Hospital, St. Luke's Hospital, Chicago, Michael Reese Hospital, Illinois Training School, Massachusetts General Hospital, Boston City Hospital, Guy's Hospital, London, England, one in Stockholm, Sweden, and Toronto General, Canada. We had a greater number from St. Luke's Training School, Chicago, than from any other, and made a point of keeping a nucleus of nurses from that institution, familiarized with the work. After the first month, in addition to the Superintendent of Nurses, we never exceeded twelve on duty at one time, except during three or four weeks subsequent to the Cold Storage disaster, when fourteen nurses were required. By common consent four nurses were known as "the pioneer nurses," namely Miss M. R. Browne, Superintendent, and the Misses Fulmer, Eckstrom and Northwood. These, under the guidance of their able superintendent, in a building at that time a notable thoroughfare and well filled with officers and clerks whom we often despaired of dislodging, in the midst of the legitimate professional work then going on, including the examination of many hundreds of guards, without exaggeration, absolutely quarried their way through many obstacles and eventually there appeared a hospital that we believe was pleasing to all

As attaches of the nursing force there were four orderlies and two ward maids Their duties consisted of stretcher work, lifting patients assisting in the examining room, cleaning, etc In addition to these, four colored janitors took care of the building and kept the drug room in order Two telephones—one for "long distance" and one for short distance—were early found necessary

When fully equipped, the personnel of the emergency hospital consisted of the following Two resident and four attendant physicians, a superintendent of nurses, with a corps of twelve trained nurses, four orderlies, a druggist, a recording clerk, a messenger boy, a telephone operator four janitors and a hospital steward, who had care of the property, records, reports, and who transacted the general business pertaining to the Medical Bureau For a time daily, and on all special occasions, when the crowds were the greatest and the demands upon the hospital were proportionately increased, Columbian guards were detailed for service at the entrance of the hospital

All were uniformed—the physicians in navy blue, the orderlies and litter bearers in gray and the nurses in the uniforms of their respective schools, except the superintendent of nurses who wore white

A general kitchen was not included in the plan, and therefore no meals were served in the hospital The nurses ate at the officers' mess at hours specially fixed The diet kitchen was used solely for the preparation of special diet for the sick and injured It was a rule of the department that patients should not be kept over night Exceptions were made only when absolutely necessary

AMBULANCE SERVICE

During the pre-Exposition period the sick and injured were transported in patrol wagons At the dedicatory and opening exercises, as well as on other occasions where the people were densely massed, invalid chairs, marked with a conspicuous red cross on white background, in charge of trained men, were stationed on the outskirts of the crowd Sometimes the location of the chairs was indicated by means of a very large red cross on a sheet on the sides of the building and above the level of the crowd The work of the ambulance corps proper began on May 1, with the opening of the Exposition At first, four ambulances were put into service, but the exigencies did not seem to require the fourth one and its use was discontinued In less than fifteen seconds after a call had been received a wagon was ready for the start The ambulance corps numbered twenty-five men (litter bearers), exclusive of their sergeant, J F Minot and nine drivers The latter were not allowed to leave the box Dr H W Gentles, the superintendent of the ambulance service, received his instructions from the Medical Director Dr Gentles thoroughly drilled the ambulance corps in "first aid," and performed his duties in a very able manner He had had, previous to his appointment, much experience in this kind of work The greater proportion of the litter bearers were young medical men who had had more or less experience as hospital internes, some had seen service in the Army Hospital Corps, others were medical students, and all were well fitted for this special branch of the service

Quick transportation through large crowds was a matter of extreme difficulty This was avoided occasionally by the use of the Ashford Wheeled Litter, loaned by the St John's Ambulance Association This litter and the invalid chairs above mentioned were of great service in moving patients either through large buildings or through dense crowds to points where the ambulances could continue the transportation to the emergency hospital The principal days on which these precautions were found necessary were the Opening Day, Infanta's Day, the Fourth of July, Rajah's Day, Illinois Day and Chicago Day The system of communication between the sick and the ambulance was as follows A friend of the sick person called the nearest guard, who telephoned by means of the nearest patrol box his desire for an ambulance and, if possible, the nature of the case The call on being received by the central office was transferred to the nearest ambulance station, and the ambulance wagon immediately took the shortest and most unfrequented road to the box It was the duty of the guard to remain at the box until the ambulance wagon arrived in order to direct the bearer to the case, which was then, after the immediate indications were fulfilled, removed to the hospital On days when there were especially large crowds, men were stationed at certain boxes marked by large red cross flags In this way, any person who had a sick friend had no difficulty in knowing where assistance was to be received After patients had been treated at the hospital the ambulances were frequently called into requisition, either to transfer a patient to his home, to his hotel, or, again being placed in a rattan basket stretcher, he was sent by rail to the point nearest his home or hospital, and there the city police ambulance or patrol wagon completed the transportation The men remained on duty eight hours, there being three reliefs in the twenty-four hours The ambulances were in service from 8 in the morning till 11 o'clock at night, and longer when necessary One wagon, that was nearest the hospital, remained on duty twenty four hours, so that a constant ambulance service prevailed Two drivers were assigned to each wagon, with the exception of the hospital ambulance, which had three—two during the day and one at night Each of two wagons had an assignment of one pair of horses The hospital ambulance had two pairs, and in the event of any sickness among the horses, substitutes were easily obtained The ambulance corps had several calamitous accidents to take charge of—three in particular The fatal Cold Storage fire occurred July 10 On this occasion twenty-two cases were brought to the hospital in a very short space of time The men also, in addition to their ordinary duty, remained at the scene of the fire and took care of any trivial accidents incident to the occasion, and also supplied coffee, sandwiches, etc, to the workers On June 28 a floor gave way in one of the temporary buildings and injured a considerable number of people Thirty of these were taken care of by the ambulance corps On the occasion of the accident on the ice railway the sufferers were removed quickly and with dispatch to the hospital On July 4, 70 calls were answered, In May, 315, in June, 406, in July, 581, in August, 564, in September, 605, on Chicago Day (October 9), 172 One ambulance was stationed at the hospital building, another contiguous to Terminal Station, Machinery Hall, and the Grand Plaza, and a third at the east end of Midway Plaisance, convenient to the north end of the grounds While there were a number of narrow escapes, no visitor or employee was actually struck by either horse or ambulance The latter carried, in addition to splints and litter, a bag with all necessaries likely to be called for in an emergency case Moreover 150 light stretchers, with a single blanket for each, were enclosed in white canvas bags marked, "Stretcher" and placed in conspicuous places in the chief buildings, to be used in the event of a great accident These were easily obtained

RULES FOR AMBULANCE SERVICE

1 All calls are to be taken on the telephone by No 1, who shall repeat the message over again to the operator

2 No 1 shall in all cases inform the driver whether there is any special reason for haste

3 On receipt of a call, the wagon is to leave the station in the shortest possible time All unnecessary bustle and noise is to be avoided

4 The driver shall always take the most unfrequented and shortest route to and from an accident No driver shall use the gong when not necessary, but if path is crowded he is to keep gong going so that everybody has sufficient time to get out of the road The gong must always be rung before turning a corner All guards or guides shall do everything in their power to facilitate the progress of the wagon whether they be on duty or off

5 The man on the wagon must always report the name and number of any guard who does not assist in clearing the way for the wagon, also any person, carriage or chair so placed, driven or wheeled as to obstruct the passage for the wagon

6 All reports are to be handed in (in writing) as soon as possible to the Superintendent of Ambulance, so that he may investigate the report and forward the result to the Medical Director for instructions

7 If, on arriving at the place from which the call has been sent, there is nobody at the box to direct the ambulance men this fact must be reported at once to the Superintendent

8 All members of the corps *must* show the utmost consideration to sick and injured persons and their friends, especially ladies They shall always try to accommodate one of the patient's friends inside the wagon, otherwise nobody is to be allowed to be inside or on the steps of the wagon

9 Men off duty are *never* to ride on the wagon

10 The ambulance of the Bureau, while engaged in going for or in carrying sick or wounded persons to or from the hospital or substation, shall have the right of way, excepting fire apparatus responding to alarms of fire, against any person, carriage or incumbrance, put, driven or being in streets, and no person shall obstruct said ambulance while so engaged if there shall be an opportunity to get ot the way

By the courtesy of the Chief of Police of the city of Chicago, Major McClaughry, this rule holds good outside the grounds, and city police officers have instructions to give ambulances of the Bureau the right of way in the streets of the city of Chicago

Approved

Jno E Owens, Medical Director
D H Burnham, Director of Works

WATER

The statistics of the Department of Health of the City of Chicago showed, to February, 1892, a very serious death rate from typhoid fever, the number of deaths from this cause for the year ending Feb. 29, 1892, being nearly two thousand After this date the water supply of the city was much improved by the extension of tunnels The general supply of water for the city, contiguous to the Exposition grounds, was obtained from the lake through the pumps at Hyde Park Station at 68th Street The supply to the grounds was independent of that to the city, and furnished by means of pumps erected at Hyde Park Station by the Exposition Company, and to be taken by the city, after the close of the Exposition The amount of water which could be pumped was 24,000,000 gallons daily, but the domestic consumption on the grounds averaged about eight million gallons per day The extension of the tunnel into the lake had not been completed, and pure water for the workmen became a desideratum As soon as practicable, arrangements designed and constructed by Mr W S MacHarg, Engineer of Water Supply, Sewerage and Fire Protection, were completed for the supply of sterilized water for the use of constructionists and others The method of preparing the drinking water was as follows Adjacent to the boiler room at the temporary power house four tanks were set, the number being afterwards increased to seven, graded and elevated so that there was a difference of level between each successively Each tank was seven feet in diameter and nine feet high and made of cypress The upper tank was used for cooling, and a coil of inch pipe was placed in it, delivering at the top on a pan from which the water flowed in a thin sheet into the next tank below and overflowed through a pan in the same manner to the successive tank The water was thus aerated and cooled at the same time A feed water heater was set in the boiler room, and the water delivered under pressure through this heater into the coil, the steam in the heater being at ninety pounds pressure, and the water supply throttled so that a temperature greater than 212 degrees Fah was obtained From the lowest tank the water was drawn off at a point about two feet above the bottom into tank carts for delivery on the ground At this time there were forty-one barrels or casks in service, with an additional thirty-five for use whenever required by any increase in the force Each of the barrels was emptied and refilled daily, without regard to the amount of water it may have contained on the arrival of the water cart Every Sunday the tanks were emptied and washed out thoroughly with a hose In tank No 1, where the boiling was done, there was a great deal of mud precipitated during the boiling of the water There was no mud in remaining tanks At this date (May 20, 1892), with forty-one barrels, one water cart, and with two men, the service was efficient

Although we had been boiling the water for the use of the men on the grounds, and so far as in our power had made it convenient for them to use it, it was with more or less difficulty that the employees were prevented from using hydrant or surface water We did not at this time consider the untreated lake water safe, and notices were distributed prohibiting the use of water from hydrants and lagoons

In April, 1893, before the opening of the Fair, the number of barrels in use amounted to about three hundred It was not intended to carry the use of this sterilized water into the period of the Fair, the filtered water and the Waukesha water (spring water) being intended to serve the general public, but as the number of visitors increased in July and August it was found necessary to revert to the system in order to furnish an adequate supply Later, the number of barrels was greatly reduced Consequently, the sterilizing plant, which had been torn down upon the removal of the temporary power plant immediately before May 1, was re erected in connection with the boiler plant in Machinery Hall, and this service reinstated City water was used in the barrels previous to the re erection of the sterilizing plant August 3, sterilized water was again furnished, and its use continued to the end of the Fair On certain other occasions, owing to changes in the temporary power plant, it was necessary for several days at a time to discontinue the use of sterilized water, and the barrels were filled directly from the city main An excess of gastro intestinal disorders was observed by this Bureau, and the Department of Water Supply, Sewerage and Fire Protection was at once notified The sterilization of the water was of great importance, and the bacteriologic reports furnished by Mr Allen Hazen, chemist, proved that it compared most favorably with any water in use during the Exposition

The Waukesha Hygeia Mineral Spring Company obtained a concession for the exclusive privilege of piping water a distance of one hundred and one and a half miles and delivering it from the Springs in Southern Wisconsin, on the grounds of the Exposition, and there retailing the same from numerous booths at a cent a glass, and also furnishing it to customers at a price not to exceed five cents a gallon This water was passed through a cooling plant sufficient to reduce its temperature The machinery had a capacity for reducing 60,000 gallons of water from the ordinary temperature to 40 degrees Fah in sixteen hours There were at one time during the summer 167 drinking booths in and outside of the buildings, and 372 private taps for wholesale delivery

In addition to the sterilized water above referred to, free filtered drinking water was furnished at available points by means of a hundred Pasteur filters, the capacity of each being about two hundred gallons Four faucets and four cups were furnished each filter No attempt was made to cool this water, but its quantity and quality, as shown by the bacteriologic examinations by Mr Hazen, were very satisfactory

Every endeavor was made to force concessionists, State officials and restaurant people on the grounds to filter all water used for drinking This was in a measure successful Filters of many kinds were used by these parties, some of them probably without much benefit This order did not apply to the Waukesha Mineral Spring Company's supply, piped from Waukesha, Wis

So much for the efforts of the Exposition Company to furnish innocuous water to its visitors The report of Mr MacHarg, the Engineer of Water Supply, etc , will furnish additional details

SEWERAGE

The sewerage system of the city of Chicago did not extend into Jackson Park For the care of the excreta during the construction of buildings, wooden privies with concrete floors were provided, each privy containing thirteen seats, with stalls and galvanized iron pails for solids, and troughs and sumps for fluids, and with a separate urinal trough just above the pails, and also a general urinal trough of galvanized iron along the wall facing the stalls

An attendant threw into the pails from time to time, as became necessary, dry earth pulverized at the temporary power plant, for the absorption of dampness and the prevention of odor A solution of copperas was from time to time freely applied to the troughs which led to the sumps, and to all the parts of the privy exposed to contamination

A tank cart made the rounds at night, and the catch basins were pumped out and washed with copperas and the urinals carted to the nearest city sewer and dumped The solids were conveyed to the southern portion of the grounds and dug into black earth This proved most satisfactory except on one or two occasions of very wet weather in the spring of 1892

Avoiding any system of contract scavengering, the Department of Water Supply, Sewerage and Fire Protection detailed its own men for the care of the privies and the disposal of the excreta In this way the results of the system proved most satisfactory This system was continued until the completion of the general system of sewerage and plumbing, which was shortly before the opening of the Exposition The system last referred to, namely, for the use of the Exposition, was as follows

All roof water was discharged directly into the lagoons or Lake Michigan, as was most convenient, through pipe sewers ordinarily, brick sewers being required in one or two cases only

All surface water from walks, whether resulting from rain or from washing, was discharged through a system of vitrified sewer pipes to wells conveniently and economically located, and thence pumped directly to Lake Michigan This water, while not seriously contaminated, was thought to contain sufficient organic matter to make its discharge into the lagoons undesirable The sewage proper, that is, the discharge from water closets, lavatories, cafe kitchens, etc , was pumped by means of fifty-two Shone ejectors through cast iron force mains and discharged into tanks at the cleansing works, which were located in the southeastern portion of the grounds Here sewage was treated with chemicals Most of the suspended matter and a large part of the organic matter in solution were precipitated, and a clear effluent water, from which all highly putrescible matter had been removed, was discharged into the lake The precipitant commonly called "sludge" was forced into filter presses and pressed into the form of cakes, which were afterwards burned at the crematory in the extreme southeastern portion of the grounds These cakes came out very hard, having been deprived of about 50 per cent of the water by pressure

Garbage and ashes were handled in the following manner The former was placed in galvanized cans placed outside of the buildings at 11 o'clock each

WORLD'S COLUMBIAN EXPOSITION MEDICAL BUREAU SUMMARY OF WORK DONE AT EMERGENCY HOSPITAL DURING THE CONSTRUCTION AND EXPOSITION PERIODS —CONSTRUCTION 1893

	Construc Period	Exposition Period May	June	July	Aug	Sept	Oct	Total
New medical	2,555	988	1,137	1,447	1,631	1,641	1,802	11,201
New surgical	3,364	489	498	518	443	459	554	6,820
Re treated medical	2,738	474	533	354	406	301	338	5,189
Re treated surgical	3,196	670	798	978	689	586	575	7,492
	11,853	2,621	2,966	3,292	3,169	2 987	3,264	30,152
Employes, male		2,489	2,828	2,356	2,023	1,564	1,642	12,352
Employes, female		40	110	236	215	226	184	1,011
Visitors, male		70	249	360	523	687	752	2,641
Visitors, female		72	279	340	408	510	686	2,295
		2,621	2,966	3,292	3,169	2,987	3,264	18,299
Total of male patients		2,509	2,577	2,716	2,545	2,251	2,394	14,992
Total of female patients		112	389	576	624	736	870	3,307
		2,621	2,966	3,292	3,169	2,987	3,264	18,299
Maximum daily No of patients		123—29th	147—17th	170—4th	149—24th	151—14th	253—9th	
Minimum daily No of patients		35—21st	48—4th	27—23rd	33—27th	31—2nd	83—1st	
Daily average		84 54	98 86	106 19	102 22	99 56	108 60	
Deaths	32	4	7	15	3	3	4	68
Births	1 full	2 prem	2 prem	1 full	1 full			7
In patients, male		104	106	188	207	223	245	1,073
In patients, female		35	237	461	489	602	764	2,588
Ambulance calls		315	406	581	564	605	790	3,261
Examination of guards	5,870	1,072	298	78	288	817	344	7,757
Highest mean temperature		72°—20th	80°—21st	83°—12th	83°—10th	82°—14th	70°—11th	
Lowest mean temperature		40°—6th	58°—11th	64°—3d	58°—29th	46°—25th	33°—20th	
Total attendance		1,531,984	3,577,834	3,977 502	4,687,708	5,808,942	7 945,430	27,529,400

night, and taken up by the Transportation Department, Mr W H Holcomb, General Manager, and deposited at the crematory

The ashes and garbage were kept separate Ashes were utilized for "filling" on the grounds The quantity was not great, as almost all of the cooking was done by gas

Inasmuch as a constant fire existed at the crematory, the garbage was disposed of as soon as received It created no nuisance whatever, and the raw material was very quickly reduced The crematory was operated by oil as a fuel, and its practicability and efficiency were fully demonstrated

Creolin-Pearson, in strength of one ounce to a gallon of water, was liberally used to disinfect stables, water closets, urinals, different portions of the grounds and buildings, and proved to be very efficient Tin hand sprinklers were found convenient for its distribution

After the opening of the Fair it was found necessary to erect a few free urinals These were composed essentially of small wooden buildings with concrete floors and with four slate stalls emptying through a trap directly into the sewer They operated satisfactorily

The whole system of sewerage was constructed and operated by Mr W S MacHarg, Engineer of Water Supply, Sewerage and Fire Protection

SANITARY INSPECTION

Previous to the opening of the Exposition, the inspection of grounds and buildings was very satisfactorily performed by the attending physicians The grounds were divided into sanitary districts in order the better to systematize the work The physicians furnished weekly reports of the condition of their districts, covering privies and closets, water supply and drainage, the condition of grounds, buildings and of population

Finally, the hospital work increased to such a degree as to necessitate special appointments for the performance of this function

Inspection of grounds and buildings went on daily, and each Inspector furnished a report to the Medical Director every evening, covering the buildings and localities visited, sanitary condition of the same, with remarks and recommendations From the reports of the Sanitary Inspectors the Medical Director furnished each day to the Director of Works a condensed report

EXPENSES

	Cr	Dr
Expense of Bureau to Dec 31, 1893		$44,277 17
Expense of Bureau from Jan 1 to March 31, 1894		638.79
Credits Sale of bedding furniture, instruments pharmaceutical implements, ambulance	$2,788 86	
For "first aid" to injured	2,116 08	
	$4,904 44	$44,915 96
		4 904 94
Net expenditure		$40,011 02

DEDICATION

For the exigencies of the dedicatory services on the grounds Friday, Oct 21, 1892, and of the dedication of certain State Buildings October 22, the following organization was effected

1 The employment of four nurses and one head nurse, an extra male orderly and a female orderly for the emergency hospital

2 The establishment of a substation (No 1) in the north end of the Manufactures Building (west side), divided into three rooms, one bed and a rattan lounge in each of two of these, the reception room being in the center, in charge of Dr W H Allport and Dr Bertha Van Housen, with two trained nurses and one male orderly Another substation (No 2), like No 1, in charge of Dr E T Edgerly and Dr Jennie Hayner, was located in the south end of the building, east side These were otherwise equipped for meeting such emergencies as arose They were numbered 1 and 2, and also distinguished by the flag of the Medical Bureau A patrol wagon inside of the Manufactures Building was at the disposal of the medical officers in charge upon application to the guard in attendance, and one of our ambulances was stationed at a convenient point

3 Four janitors were detailed to take charge of as

many wheeled chairs, designated by a red cross on white background, stationed where they would be most promptly available. Instructions were given to bring the patient to the substations by the shortest available routes. As rarely as possible the ambulance and patrol wagon were called into service for conveying patients from the substations to the hospital. Temporary provision was made for the ambulance service. Dr. G. Paul Marquis, one of the attending physicians, was detailed to accompany the ambulance and to direct and to have charge of the ambulance corps.

4. The southeast and southwest wards in the hospital were equipped, and the Medical Director's office, located between these two rooms, was furnished for the occasion.

5. Telephones were placed in the substations.

6. Certain guards were instructed to cooperate with the medical staff to preserve order, to keep clear space for the cases of accident and illness, to allow free ingress and egress of the medical officers wearing the badge of the Medical Bureau, the ambulance, the nurses in uniform and to facilitate the transfer of patients on wheel chairs or on foot to the substations.

7. Orders were issued to secure as direct a route for the ambulance from the substations to the emergency hospital as the circumstances of the occasion would permit.

8. At the expiration of the service it was the duty of the medical officers in charge of the substations to see that the whole medical outfit was immediately removed to the emergency hospital by one of the patrol wagons or the ambulance.

TABLE OF DISEASES AND INJURIES TREATED BY THE MEDICAL BUREAU, WORLD'S COLUMBIAN EXPOSITION, CHICAGO, ILL.

	Construction period.	Exposition period.	Post-exposition period.	Total (not including post-exposition period.)
Continued and eruptive fevers	575	923	Not classified 619	1498
Malarial fevers	166	261		427
Erysipelas	4	2		6
Syphilis	1	8		9
Rheumatism and gout	60	219		279
Diseases of the nervous system	183	1710		1923
Diseases and injuries of the eye	105	509		667
Diseases and injuries of the ear	7	36		43
Diseases and injuries of the nose	42	41		83
Diseases of the circulatory system	13	50		63
Diseases of the respiratory system	280	367		647
Diseases of the digestive system	669	1162		1831
Diseases of the lymphatic system	15	7		22
Diseases of the urinary system	18	65		83
Diseases of the generative system	21	154		175
Diseases of the female breasts	1	6		7
Diseases and injuries of bone and periost	8	4		12
Diseases and injuries of joints	10	5		15
Diseases and injuries of tendons and bursæ	13	11		24
Diseases and injuries of connective tissues	23	17		40
Diseases and injuries of the skin	300	635		935
Toxic diseases	12	47		59
Edema local	3	3		6
Abscess (not classified)	21	31		52
Burns	67	126		193
Scalds	16	18		34
Sunstroke	4	4		8
Exhaustion	57			57
Wounds (incised, contused, lacerated and punctured)	2373	1568		3941
Sprains	230	133		363
Dislocations	34	18		52
Fractures of the skull	14	6		20
Fractures of bones (other than skull)	200	86		286
Concussion of brain and spinal cord	9	9		18
Amputations	9	8		17
				17,521
Totals	5,919	11,602	619	18,140
Re-treated	5,931	6,697	518	13,144
Totals	11,850	18,299	1,132	31,284
Deaths	32	36	1	69
Births	1	* 6		7

* (4 premature.)

The following notice to visitors was distributed over the grounds and buildings:

WORLD'S COLUMBIAN EXPOSITION—MEDICAL BUREAU.

NOTICE TO VISITORS.

The following stations have been established within the grounds of the World's Columbian Exposition for the gratuitous treatment of those taken sick or injured during the dedication services of Oct. 21 and 22, 1892:

Emergency Hospital.—At the southeast corner of the Service Building, near the Sixty-second Street gate.

Sub-station 1.—At the northwest corner of the Manufactures and Liberal Arts Building, facing west toward the Wooded Island.

Sub-station 2.—At the southeast end of the same building, east of the Music Stand and facing the Lake.

These stations will be open continuously on October 21 and 22, and will display the Geneva cross. All employees of the Medical Bureau will display the same emblem.

Invalid chairs belonging to this Bureau and bearing the Geneva cross will be found in the side aisles of the Manufactures and Liberal Arts Building. An attendant will be in charge of each chair and will convey patients to substations 1 and 2.

A chair will also be stationed at the landing stairs on the west bank of the lagoon east of the Transportation Building.

The Columbian Guards will furnish information as to the location of the stations of the Medical Bureau.

(Signed.) JOHN E. OWENS, Medical Director.

KINETIC THERAPEUTICS IN GYNECOLOGY OR THURE BRANDT'S SYSTEM.

BY SOFIE A. NORDHOFF, M.D.

WASHINGTON, D. C.

LATE VOLONTAERARZT OF THE ROYAL UNIVERSITY HOSPITAL FOR WOMEN, MUNICH (BAVARIA); LATE ASSISTANT OF THE OUT-DOOR DEPARTMENT OF THE HOPITAL BAUDELOCQUE, PARIS.

During my recent trip to Europe, I became greatly interested in a method of treatment in gynecology which, it has been demonstrated to me, is peculiarly adapted to a certain class of cases not so readily amenable to treatment by other means. This method is known to most practitioners under the name of Brandt's method or pelvic massage, a term which is not employed by the disciples of Brandt. The Germans call it Thure Brandt's system in gynecology, mechano-therapie—or Manuelle Behandlung—while the French school prefers the name, *kinésithérapie gynécologique* or kinetic therapeutics. It has the warmest advocates among great gynecologists such as Schauta, of Vienna, Schultze, of Jena, Freund, of Strassburg, Profanter, Prochownik, Ziegenspeck, and many other eminent specialists.

It might be interesting to consider for a moment the life of this layman, Thure Brandt, who for so long a time was bitterly opposed by the medical profession, but before whom the faculty now bows in grateful recognition of his valuable services to medicine. Thure Brandt received an education as a gymnast at the Royal Gymnastic Institute of Stockholm, where he was graduated in 1842. He remained several years in this Institute in the capacity of assistant teacher of gymnastics, and became proficient in treating various diseases by Swedish movements. In 1847, that is, five years after graduation, while a sergeant in the army, a soldier was brought to him with a complete prolapse of the rectum. There being no physician in the place, Brandt, in his endeavor to relieve the patient, employed quite an original plan of treatment and meeting with success, this became the nucleus of the present method of kinetic therapeutics.

He placed the soldier in the lithotomy position, with the pelvis somewhat raised, and by vibratory movements and gentle upward traction upon the sigmoid flexure he succeeded in returning the bowel into the normal position. Having met with such marked success in this case, his attention was directed to a number of women whom he had previously treated at the Institute by Swedish movements, and he reasoned that prolapsed uteri or displaced organs might be restored to their normal position by this same method. He now made a careful study of anatomy and particularly of the female pelvic viscera, but it was not until the year 1861, that is fourteen years later, that a woman with a prolapsed uterus consulted him. The diagnosis of this case was not difficult. For twenty seven years she had suffered from prolapsus and for the last three years had been obliged to carry her uterus in a bag, outside of the vagina. Fourteen days of daily treatment restored the uterus to its normal position and, what is more, it stayed there until she died, that is for twenty-three years.

The news of this almost miraculous cure spread rapidly and soon Brandt had over one hundred patients daily, most of them cases that had been given up as incurable by gynecologists. He worked daily, from morning till night and became an expert diagnostician. He loosened displaced and adherent uteri, pelvic exudates disappeared under his hands, ovaries that had been imbedded in pelvic masses were freed, enlarged tubes were reduced to their normal size. To this pelvic massage he joined the Swedish movements originated by Professor Ling and having, as he thought, well systematized his treatment, he published a brochure in 1864. Most of the Scandinavian physicians considered Brandt as a quack, and either refused to read a pamphlet on a new treatment in gynecology by a layman, or after reading it had no faith in the wonderful cures reported.

Following the advice of friends Brandt published four years later, another brochure and this time in French. The translation was very imperfect, the medical terms chosen were those of the sixteenth century, a number of certificates of complete cure, given by the patients themselves were added, all this would have been sufficient to condemn his work, but *au comble du ridicule*, he put his military honors on the title page. A Major of the Swedish Army, Chevalier of the *Ordre de l'Epée*, captain in the infantry regiment of Skaraborg, inventor of a new treatment in gynecology! Not recognized in his own country, and ridiculed in others he ceased his publications but continued in his practice and in the elaboration of his method.

In 1872 Dr. Skoldberg, of Stockholm, who was very much impressed with some remarkable cures he had witnessed, urged Brandt to settle in Stockholm and promised to assist in giving his method the sanction and publicity which it so well deserved. Skoldberg was professor of gynecology, and after having delivered to the students a lecture on Brandt's system, and having made preparations for practical demonstration, he died suddenly and left Brandt more alone than ever.

After every means of becoming reconciled with the scientific circles had failed, Brandt withdrew from publicity, determined henceforth to do all the good he could in relieving women of their suffering, and resigned that his method should die with him. His work remained obscure until 1885—he had now reached the age of 67, when by a sudden turn of good luck his method became recognized. The way it happened was thus:

A rich Swedish merchant whose wife and daughter had been cured by Brandt of serious uterine disease, was anxious to have the treatment known outside of its limited circle. While stopping in Vienna he tried to interest in it a young and promising physician, Dr. Profanter, and induced him to visit Stockholm in order to see Brandt and study his method. At first a skeptic, he soon was converted into an enthusiastic believer and published several articles in favor of Brandt's method. The result was that Germany's curiosity became aroused. The following year 1886, Brandt received an invitation (to come) to Jena in order to demonstrate his method in Schultze's clinic on sixteen well selected cases. A number of German gynecologists were present and all were much impressed by the skillful manner in which Brandt arrived at his diagnoses, which were perfectly correct although he examined without the help of an anesthetic, which can not be said of the specialists. The cases were then submitted to his treatment and a strict record kept. Schultze made some drawings of the worst cases in order to facilitate comparison, one of the assistants who did not look favorably upon this novelty persecuted the patients, thermometer in hand, thinking that sooner or later he would find a rise in temperature especially in the subacute exudates. These sixteen cases were published by Schultze in February, 1887, and he remarks that this new treatment is most valuable in affections of the female pelvis, and that he firmly believes that it is most efficacious in loosening old chronic parametritic adhesions and returning the uterus into its normal position.

Shortly after the publication of this article, seventy physicians not only from all parts of Germany, but also from Austria, Switzerland, Italy and England went up to Stockholm to become pupils of Thure Brandt, and soon after the gynecologic literature was overflowing with articles on this new treatment.

Most writers after eulogizing the remarkable results witnessed, make the assertion that practical demonstration alone can teach a method so full of complicated manipulations—that it can not be learned from books, no matter how elaborate the explanations be, and then immediately they proceed to give a more or less condensed description of the technique. I will not be guilty of the same inconsistency, and refer those who are interested in this treatment to Thure Brandt's book, "*Behandlung Weiblicher Geschlecht Krankheiten*," a work carefully supervised by Professor Schauta, of Vienna, or to Ziegenspeck's brochure, "*Uber Thure Brandt's Verfahren der Behandlung von Frauenleiden*," published in the *Sammlung Klinischer Vorträge*, No. 353-354, Leipzig, 1890, or to a small work in French by my friend and instructor, M. Stapfer, late Chief of the Gynecological and Obstetrical Clinic of the Faculty of Paris, who was commissioned by the Minister of Public Instruction to study this new treatment under Thure Brandt and whose work is the report of this mission, read on his return from Sweden before the Académie de Médecine, session July 26, 1992.

Mr. Stapfer is one of Thure Brandt's greatest admirers, and has given up all other practice in order to devote his whole time to kinesitherapy a name which he coined. He is in charge of the outdoor department of the Baudelocque Hospital, and I was fortunate enough to receive an appointment as his assistant and was enabled to work under his instruction and supervision.

What is meant by Kinetic Therapeutics?—It is the art of healing functional disturbances and organic diseases of women, by acting upon the genital organs and their circulation, by direct and indirect movements. The object is to bring about a healthier state of the circulation, lymphatic and sanguineous, to set free the various structures of the genital tract, to reestablish their anatomic and physiologic integrity—without cutting operations, without any surgical appliances, without medication, by manual skill alone.

What are the indications for Kinetic Therapeutics?—All functional disturbances such as amenorrhea, dysmenorrhea, menorrhagia, displacements of the uterus and its adnexæ with or without adhesions, peri or parametritic exudates of sanguineous or lymphatic origin, chronic and subacute inflammation of the uterine parenchyma with its consequences—leucorrhea, hemorrhages, fungosities, ulcerations, oophoritis, salpingitis—in short, nearly all the gynecologic miseries that fall to the lot of womankind.

What are the contra indications?—Acute inflammation. Pus from any cause. Malignant neoplasms, the two latter points have to be taken in their broadest meaning—including syphilis, gonorrhea, tuberculosis, actinomycosis, diphtheria, etc, cancer and sarcoma.

Treatment.—The rules of treatment as observed at the Baudelocque Hospital are, daily treatment,—any prolonged interruption is considered objectionable. The menstrual function does not only *not* interfere, but is considered the best time to work for loosening adhesions. Rectum and bladder must be empty. The patients are assembled in a very large room which serves as waiting and treatment room both, the advantage of this is obvious, and while awaiting their turn they watch the physicians going through the different movements with the other patients, thus having an object lesson which alone serves to teach the sometimes very complicated movements which precede and follow, and thus form part of each treatment. Several couches are in the center of the room and M Stapfer and his assistants hard at work. The treatment couches are fourteen inches high, the patient lies with her thorax slightly raised, her knees drawn up, the operator sits to the left on a stool on a level with the couch, his left index finger in the vagina or rectum as is usually done in virgins and the right hand on the abdomen. The outer hand does all the work while the left index finger does not move but only acts as a support. The duration of treatment is from ten to fifteen minutes, except in cases of chronic exudates, half an hour to forty minutes.

Strict antiseptic precautions are taken. The hands are disinfected with solutions of bichlorid of biniodid, the latter being more in vogue in the Baudelocque Hospital. Glycerin is always added to these solutions. To anoint the index finger it is not simply dipped into some oily substance, but the right index rubs it thoroughly into the left and far above the metacarpo-phalangeal joint.

The treatment proper consists of three different kinds of movements, vibrations, circular friction and rectal effleurage or stroking. Analgesic treatment always precedes the other, as a diagnosis can only be made when the tenderness has disappeared. This usually is the case after three to five days.

Chronic constipation, this never failing symptom of retrodeviations is cured in a few days.

The gymnastic exercises originated by Ling and taken up by Brandt as part of the treatment are divided into three classes:

1 Those which deplete the pelvis.
2 Those which increase the afflux of blood.
3 Those which strengthen the muscles of the pelvic floor.

Time is too short to go into the details of the technique, and it would be a hopeless task to attempt giving a clear idea of it without illustrations or practical demonstration. Brandt does not consider his treatment complete without these Swedish movements. The Germans, in trying to improve upon Brandt's method, have done away with the gymnastic exercises on the ground that they take up too much time. The French school advocates them most highly and considers the movements a most valuable adjuvant, never to be omitted, in fact, a great many cases, especially those of amenorrhea and menorrhagia are treated and cured by exercises alone and without pelvic massage. M Stapfer asserts that the Germans make a great mistake in discarding these muscular exercises, and he made this the subject of a paper read before the International Medical Congress at Rome, April, 1894.

Kinetic therapeutics, on account of the wonderful results obtained, would run a great risk of becoming the prey of quacks and advertising industrial gynecologists, were it not for the fact that a thorough knowledge of the anatomy of the pelvis is required. It is based upon truly scientific principles and herein lies its safeguard. Practiced by unskilled hands it may do a great deal of harm and may even prove fatal in cases of pyosalpinx. It is not sufficient to possess a good general knowledge of the female pelvis, its large nerve trunks and blood vessels, but a thorough study of the lymphatic circulation and of the sympathetic nervous system becomes a necessity. In dealing with an exudate, the operator endeavors to stimulate the lymphatics and promote absorption by working in the direction of the lymph channels. It has to be borne in mind that the lymphatics of the uterus, tubes and ovaries are directed outward, following the course of the utero ovarian arteries and terminate in the lumbar glands. Should the exudate be near the cervix it has to be remembered that these lymphatics take the direction of the uterine artery and end in the pelvic glands.

The researches of Glax and Klemensiewicz have shown that in the center of an inflamed area, in consequence of the increased transudation, the lymph spaces become overfilled and the outflow is deficient, owing to the compression of the vasa efferentia. The operator therefore has to begin by making room in the lymphatics and by working at the periphery and gradually advancing toward the center, and as soon as the lymph stream begins to circulate he works in the opposite direction, that is, from the center to the periphery, following the direction of the lymphatics. Experiments of Lassar and Mosengeil have proved to the fullest satisfaction that kinetic therapeutics increases the rapidity of the lymph stream.

Lassar (in *Virchow's Archiv*, vol LXIX, p 153). This experimenter by chemic and thermal irritation produced an inflammation in the paw of a dog, and then introduced a canula into the peripheral end of a severed lymphatic and a few drops of lymph flowed out slowly. But as soon as massage was practiced the lymph was seen to spurt out.

Mosengeil's classical experiment described in the *Arch. f. Klin. Chir.*, vol. xix, p. 428, shows conclusively the value of massage. He injected animal charcoal into the joints of rabbits and considerable swelling took place. One joint thus treated was submitted to massage, the other was left alone. In the first one the swelling disappeared, the latter remained enlarged. On autopsy the swollen joint revealed the black substance still *in situ*, while the masséed articulation was free from it. This experiment not only proves the usefulness of kinetic therapeutics, but shows the danger of such a method applied where the quality of the exudate is of an infectious nature.

The nerve supply of the lymphatics is derived from the sympathetic nervous system. This latter is of the utmost importance to the kinetic therapeutist. I could not help wondering how little is said in the standard text-books of gynecology on the rôle played by the sympathetic nervous system, in fact most of the books on anatomy treat this system with marked indifference. In my opinion kinetic therapeutics is directed chiefly to the lymphatic and sympathetic systems and it is to be hoped that its practice will cause some study in this rather unexplored field, and throw some light on the oftentimes obscure pathology and symptomatology of uterine disease. If we take a case of analgesic treatment we will soon find that we come across certain spots that are particularly painful and in making a careful study of the anatomic relations we can always trace these "points douloureux" to sympathetic ganglia. There is for instance, at the junction of the uterus and Douglas' fold, to the right and left of the posterior vault of the vagina, a most tender point, which when slightly touched makes the patient wince and here we find the uterine ganglia. Occasionally the sacral nerves can be traced back to their foramina at the level of which four sacral ganglia are found, which are united to each other and send numerous branches to the hypogastric plexus. This whole region is in certain affections highly sensitive and causes the intense reflex symptoms so often noticed in uterine disease.

The sympathetic nervous system holds a place far more important than is usually attributed to it, and even a superficial glance at the anatomy of the pelvis will reveal the fact that the pelvic viscera derive their mean nerve supply from the sympathetic system. At times this nervous system becomes one of the most powerful factors in the human anatomy, namely in causing the expulsion of the fetus at term. Obstetricians consider the center of parturition to be situated in the medulla oblongata. How does the impulse reach the uterus? Partly by way of the spinal cord through the sacral nerves, partly through central filaments of the sympathetic nervous system, attaining its maximum of intensity in the plexus uterinus magnus, situated at the level of the bifurcation of the aorta. Four centimeters below, this plexus divides into the two hypogastrics, and these, together with numerous branches from the lower lumbar and superior sacral ganglia, form two divisions, the smaller one supplying and surrounding the rectum, and the larger one, after uniting with the sacral nerves, forms the cervical ganglion, which supplies the whole uterus and especially the cervix.

Now let us travel backward this same road, and many of the obscure reflex symptoms can be explained. If we have to deal with chronic exudates, with the unavoidable pressure effects upon the nervous tissue in the pelvis, the impulse will travel upward to the medulla and on its way produce the various reflex symptoms which are called by Freund cerebro-spinal. We will observe bearing down pains, sensation of fullness in the pelvis, backache, colicky pains chronic constipation, nervous dyspepsia, vomiting, asthma, pain in the cardiac region, palpitation, globus hystericus, migraine, amblyopia, cataleptic and even epileptic attacks.

Kinetic therapeutics is a valuable auxiliary in curing displacements of the uterus. When might we speak of an organ as being displaced, whose ligaments permit movement in every direction so that there is no one normal position a departure from which would constitute a pathologic displacement? Physiologic displacement is an essential feature of a normal uterus and as soon as it is in the least interfered with we know that something is wrong. No subject in anatomy has perhaps caused such wide differences of opinion as the so-called normal position of the uterus. Great anatomists as Luschka, Braune, Cruveilhier and Henle consider it normal with the fundus in the hollow of the sacrum and according to Schultze, the long axis of the uterus is nearly parallel to the horizon. More recent investigators speak of a normal anteflexion, but who can guarantee that they are right? Post-mortem we see healthy uteri nearly always in retroversion and during life the gynecologist does not often encounter a healthy organ.

We know to-day that deviation of the uterus in itself does not call for treatment, and every gynecologist has seen cases of marked displacement without a single symptom. Some authors have gone so far as to deny that any pathogenic importance whatever attaches to simple displacements without adhesions. It is certain that adhesions give at once a different aspect to the deviation and according to the degree of mobility destroyed we have to deal with the different reflex symptoms, from the multiple neuralgiæ to chorea (Schroder) and hystero epilepsy (Sielski). It is the province of kinetic therapeutics to remove the *cause* of displacements.

Exudates are treated as described above.

Adhesions of parametritic origin are disintegrated and worked back into the circulation.

Shortened ligaments are stretched and return to their normal length in a remarkably short time. If the shortening be of a peritoneal nature the operator must be satisfied if adhesions are separated and the uterus regains a relative degree of mobility, the peritoneum if once contracted does not regain its normal elasticity. When we come to treat relaxed ligaments we encounter more difficulty and we have to take into consideration that they consist merely of connective tissue and scanty muscular fibers. These latter not being sufficiently numerous to restore the elasticity of the ligaments. Some enthusiasts of Brandt's method claim to have shortened these supports. The only way in which I could account for their success, which does not otherwise coincide with physiologic laws would be that by mechanical irritation they have produced an inflammation which naturally resulted in contraction of the ligaments

I will say one word on the treatment of chronic constipation, although it does not, strictly speaking, belong to pelvic massage It is perhaps one of the most valuable presents we have received from the hands of Thure Brandt I have seen cases of habitual constipation where three cathartic pills, together with ℥ ss ol ric and an enema were the daily order of things, and such cases have been cured in a few days only by kinetic therapeutics

The reason of these remarkable results is easily understood Once more the sympathetic nervous system has to be brought into the foreground We all know that the physiologic activity of the alimentary canal depends on the proper innervation and circulation Virchow has shown that in innervation disturbances, in consequence of which the muscular fibers of blood vessels lose their energy and the elastic fibers become relaxed, thus interfering with the physiologic function of the intestine, kinetic treatment is eminently satisfactory in strengthening the muscles of the abdomen, producing peristalsis and in the mechanical removal of skybala from the colon Another most favorable result is the beneficial effect by reflex action upon the stomach

Subinvolution of the uterus is cured by this method in so short a time that one can but wonder at it It is not rare to see cases of enormously enlarged uteri reduced to their normal size in a few days

Cases of metritis and endometritis respond to treatment in a relatively short time, but should the latter be due to fungosities, curetting would be the more rational treatment

It is remarkable how quickly all the subjective symptoms disappear even in the most severe cases, while the objective symptoms remain behind, to serve as a guide for the continuation of the treatment, long after the patients consider themselves cured Kinetic therapeutics is no longer considered a novelty, but holds a high place in the estimation of the leading gynecologists The most prominent specialists abroad have given it a fair trial and acknowledge that not only did the treatment fully come up to their expectation, but that it rendered unnecessary in many instances surgical interference, particularly such operations as Battey's If kinetic therapeutics had done nothing more than to give the death blow to Battey's operation this fact alone would suffice to give this method a foremost rank in gynecology

Alexander's operation for shortening the round ligaments, with its modifications by Adams and Alquié has a dangerous rival in kinetic therapeutics Most of the disciples of Thure Brandt are of the opinion that ventro fixation has had its day and will be substituted by the more rational kinetic therapeutics Ventro-fixation as recommended by Koeberlé, Olshausen, Lawson Tait, Kelley, Sanger and Leopold is at its best a dangerous operation and by no means justified by its results Laparotomy, the forcible breaking loose of adhesions and stitching of the uterus to the abdominal parietes is a serious undertaking, especially if we think that after all it is only the substitution of an anterior for a posterior fixation and oftentimes a double fixation The dusting of aristol, dermatol or idoform over the loosened adhesions, or the application of sterilized gauze, or even gold leaf, has proved inadequate

The cure of prolapsus uteri is, although wonderful in the hands of Brandt, not universally successful if undertaken by his followers, and Winckel made the statement that colporrhaphy will, together with Brandt's system, be in the future the treatment for such indications It will easily be seen that where the pelvic floor gives no support whatever, Brandt's treatment alone can not hold the uterus up In these cases the levator muscle is found to be severed and operations such as devised by Freund, Martin and Winckel will be found beneficial, as they bring about a union of the muscular fibers of the levator and the vaginal wall Brandt's per cent of cure of prolapsus is between 70 to 80 per cent and it is doubtful whether surgical operators have the same good result There are cases on record where five and more operations did not prevent the descent of the organ and Le Fort's operation for complete closure of the vagina had to be resorted to

After having taken up so much time in trying to bring out the advantages of kinetic therapeutics, I have to point out its disadvantages All that can be said against it, even by Brandt's adversaries, is its troublesomeness, the difficulty of becoming familiar with it—a trip to Sweden or Germany to study with one of Brandt's disciples being indispensable—and last, not least, the long duration of the treatment extending in chronic cases over several months

Brandt teaches no longer, having arrived at the venerable age of 77 years Gynecologists from all parts of the civilized world are constantly applying for the privilege of studying under his direction, but within the last year or two he has felt it to be incumbent upon him to transfer the duties of teaching his method to his disciples After many years of bitter disappointment, harsh criticism and antagonism he now has the satisfaction of seeing his labors appreciated, his method adopted by the scientific world and of having his name handed down to history as one of the great philanthropists of his day

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SUPRA-PUBIC CYSTOTOMY FOR CALCULUS IN THE BLADDER

TRENDELENBURG'S TRANSVERSE INCISION—TRANSVERSE DIVISION OF THE RECTI AND PYRAMIDALIS MUSCLES—INCISION OF THE BLADDER WITHOUT INFLATION OF THE RECTUM OR INJECTION OF THE BLADDER

Read before the St. Louis Medical Society Dec 22 1894

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ST LOUIS, MO

The object of this short paper is to bring to your notice an operation, which though described in several works on surgery in the German[1] is not mentioned (so far as I have been able to investigate) in any English or American text book on surgery, with the exception of the English translation of Kocher's "Operative Surgery" recently published I do not believe that the technique of this operation as practiced by Trendelenburg, Tillman, Kocher and other

Continental surgeons is generally known or practiced in this country The operation I have reference to is the operation of supra-pubic cystotomy, by a transverse incision through the skin and abdominal muscles, without previous inflation of the rectum or injection of the bladder This operation is known as Trendelenburg's method of supra pubic cystotomy (*sectio alta*) by means of the transverse incision

This method was first suggested by Gunther and carried out afterward by Bruns-Lotzbeck To Trendelenburg, is due the credit of bringing the operation to general notice in Germany, and perfecting the technique, such as is now practiced by himself, Tillman, Kocher and others The technique of this operation renders it unnecessary that the rectum and bladder be previously distended, which in the *sectio alta* by means of the median vertical incision is of importance, especially the injection with fluids or air of the bladder The majority of surgeons have now discarded the inflation of the rectum, but still use some method of distending the bladder, either by fluids or air

As you are all aware, the object in inflating the rectum or distending the bladder, is to bring the viscus out from behind the pubes, thus rendering it more accessible especially in the adult, also to increase the dimensions of the pre-vesical space by pushing up the peritoneum It is well known through experience, that inflation of the rectum is at the best unsatisfactory, and has therefore been practically discarded That distension of the bladder is not always without danger, is also well known, especially in persons of advanced years in whom the bladder walls are friable

It is true that the Trendelenburg position (elevation of the pelvis), increases the dimensions of the pre-vesical space, but the median vertical incision in this position (with distension of the bladder) does not give as free access to the organ as the transverse incision This is due to the form of the wound as produced by the median vertical incision This wound is elliptical when pulled asunder by retractors, with the points of the ellipse at the pubes, and toward the umbilicus, so that the narrowest point of the wound is at the pubes just where the greatest amount of space is wanted for free manipulation of the deeper parts In the transverse incision the wound is triangular or lozenge shaped, with the base or widest part right at the pubes

TECHNIQUE

The patient is carefully prepared, pubes shaved, bowels emptied thoroughly He is then placed in the Trendelenburg position, the pelvis as high as necessary, so as to allow the abdominal organs to gravitate toward the diaphragm The incision through the skin is transverse over the upper margin of the pubes, in a slightly curved form, convexity of cut over the pubic bone, it is best to carry the convexity of the incision about one and one half centimeters onto the pubes, by doing this the insertion of the recti can be more easily severed, very close to the bone The length of the incision extends from over the region of one inguinal canal to the other on the opposite side The cut is carried through skin and superficial fascia, exposing the pubes and the insertion of the recti muscles Two Volkmann hooks or retractors are now placed in the skin wound, one pulling upward toward the penis, and the other downward toward the umbilicus A few veins may need ligation A catheter or sound of full curve is now introduced into the bladder and controlled by an assistant, or it may have been introduced before the skin incision is made The skin wound being held asunder by the retractors or hooks, the insertions of the recti muscles are fully exposed Their insertions are cut transversely across, keeping the edge of the knife well against the upper border of the pubes This can be facilitated by pressure of the index fingers of the left hand on the muscles, thereby putting the tendons on the stretch, in this manner both recti may be partially or wholly severed from their insertion as well as the pyramidalis muscles, as the operator may see fit

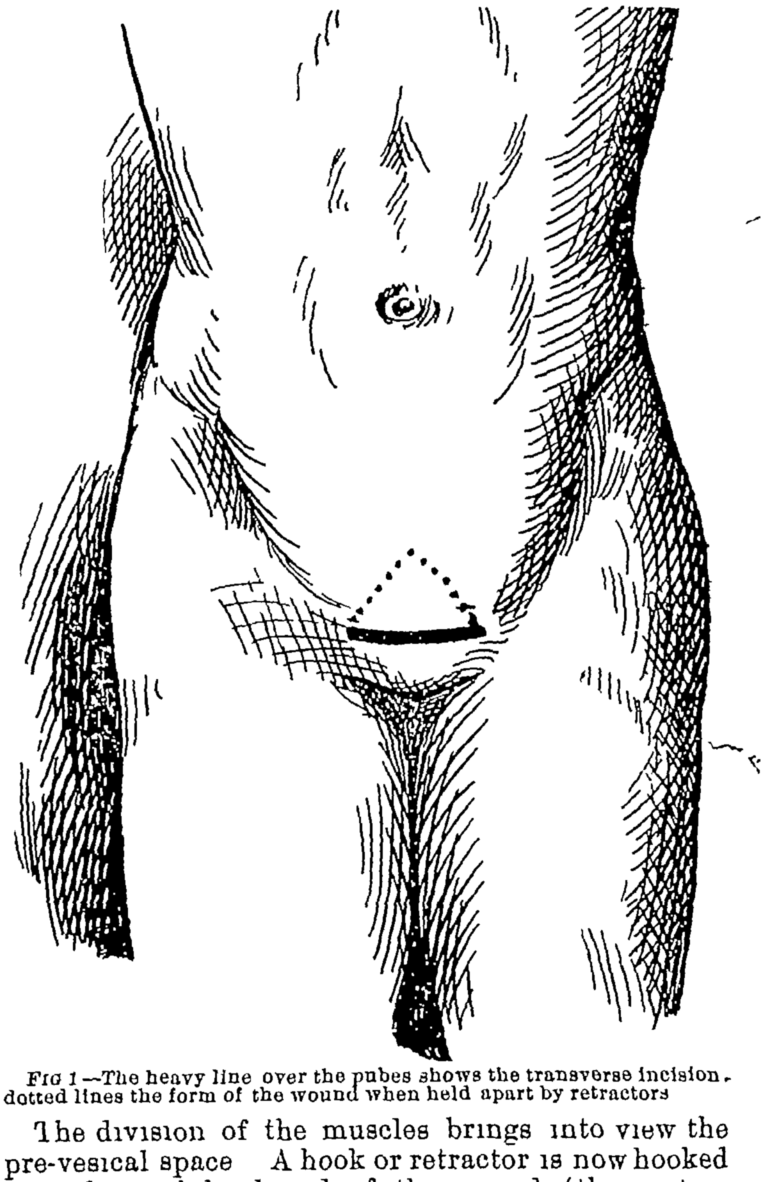

FIG 1 —The heavy line over the pubes shows the transverse incision, dotted lines the form of the wound when held apart by retractors

The division of the muscles brings into view the pre-vesical space A hook or retractor is now hooked into the umbilical end of the wound (the instrument must be blunt so as to run no danger of wounding the peritoneum) and traction made downward Two more hooks are inserted into the pubic angles of the wounds and traction made to the respective sides This gives us a large triangular wound with the base in the most favorable position for manipulation at the pubes At the bottom of this wound we find the pre-vesical fat, veins, the peritoneum and bladder In the adult the lower fold of the peritoneum may dip down behind the pubes, depending on the size and disposition of the fundus of the bladder By means of rat tooth forceps or a blunt dissector or knife-handle the fat is separated, by a little care the

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[1] Koenig, Kocher, Tillman

veins need not be injured, and no bleeding need occur by this manner of blunt dissection The anterior wall of the bladder is exposed and is recognized by its pinkish color The anterior wall of the bladder should be well exposed upward and downward If the operator works skillfully, the peritoneum may not become visible during the operation It is well at the beginning of the separation of the fat to work well down behind the pubes, for then there is no danger of encountering the peritoneum and we can, after the bladder wall has been exposed, readily work it upward, along with the veins and prevesical fat At this stage of the work the catheter comes in for its part in the technique, the assistant who has it in charge firmly depresses the ends, thus carrying the point against the anterior wall of the bladder It can be carried higher into the fundus, or lower, as the operator may desire, and by this means he can clearly outline the extent of the bladder

The anterior surface of the bladder having been sufficiently exposed, the catheter lifts the wall well up into the wound at any point the operator may determine By means of a sharp hook, or better, by means of a loop of silk passed through the muscularis, the bladder is fixed, we may, if we choose, put in two loops of silk, the one near the fundus, the other lower down

The organ is well drawn upward and the tip of the catheter is used as a guide to cut down upon, with a sharp narrow pointed knife we cut down beside the tip of the catheter into the bladder It is well to begin the incision into the bladder near the fundus and extend the cut downward, so that one or two fingers can be introduced into the interior of the bladder A gush of urine usually follows the opening of the organ The interior can now be examined by the fingers, or inspected by means of an electric light introduced into the cavity If the operation be done for calculus, it is now extracted, or any other procedure that the particular case may require After the operation is finished, the bladder is irrigated with a 3 per cent boracic solution A soft rubber T-drainage tube is now inserted into the cavity of the bladder and the other end passes out of the skin wound Into the wound and around the tube iodoform gauze is packed Each outer angle of the wound may be brought together by one or two sutures so as to lessen the size A suture is passed through the skin and drainage tube, so as to retain it in its place, over this gauze and cotton

The patient is put to bed and as soon as narcosis passes off is instructed to lie on either side, right or left, so as to admit of free drainage The tube is left in the bladder one to two weeks The gauze packing is removed as often as is necessary The patient is allowed to sit in an upright position as soon as possible after three to four days

Case—On December 16, Mr K S aged 70, residence Lebanon, Ill, was referred to me by Mr H, a medical student of the Marion Sims College The patient for a year past had suffered from frequent urination He had been treated by three or four physicians without relief He was sent to me under the supposition that he was suffering from an enlarged prostate Patient stated that his appetite was fairly good, he slept well, and did not have to get up very often to urinate, but during the daytime had to micturate very often, and that there was considerable pain immediately after urination This pain he located over the pubes Examination of the rectum revealed that the prostate was not enlarged, and could hardly be responsible for his symptoms I introduced a sound into the bladder and it was hardly in the bladder when I came into contact with a stone located on the right side The introduction of the sound caused him much pain, and he was attacked by a trembling spell, so that I had to desist from further investigation

I saw him again the next day, he had a slight rise in temperature 100 degrees, and felt unwell While holding the thermometer in his mouth he had a slight syncope I advised an operation, and that he should go to a hospital He agreed to operation and entered the Lebanon Hospital the following day Urine showed slight trace of albumen

Operation—Wednesday morning December 19 the operation of supra pubic cystotomy was done The patient had received two good doses of whisky the one an hour before, the second a half hour before the operation A hypodermic of 1/6 gr of morphin was given along with the second dose of whisky The whisky and morphin were given so as to avoid the necessity of giving much chloroform The patient was placed in the Trendelenburg position on Edebohl's table A silver catheter was introduced into the bladder and held by an assistant I had taken the precaution to arrange a stop cock on my catheter in such a manner that the nozzle of a syringe could be attached so that I could inject the bladder should I find any difficulty in reaching the same it not being injected I made a transverse incision from one inguinal canal to the other the line of incision was slightly curved, with convexity over the pubes and carried about one and one half centimeters onto the pubes The cut was carried down through skin fat and fascia onto the recti muscles There was no bleeding The recti and pyramidalis were now cut through keeping the edge of the knife on the pubes A retractor was placed in the umbilical end of the wound, drawing downward, one also into the pubic angle of the wound, drawing to the respective sides The prevesical (cavum Retzii) space was now freely exposed, especially well the parts behind the pubes, with a mouse tooth forceps and a blunt dissector I cleared away the prevesical fat and veins over the anterior wall of the bladder

I had my assistant press the catheter well up against the pubes as low down as possible with the point of the catheter as a guide I was quite safe in my manipulation and sure that I was below the lower fold of the peritoneum As soon as I reached the bladder which could be easily noted by its pink color, I cleared the fat well off from the anterior wall as far as the fundus The peritoneum did not come into sight, was covered by fat and pushed along with it out of the way Into the anterior wall of the bladder near the fundus, I inserted a loop of silk, passing it through the muscular coats This loop I used to fix the bladder previous to the incision I now had my assistant crowd the point of the catheter well against the anterior wall of the bladder near the fundus I found that it was an easy matter in this case to penetrate the bladder wall with the catheter tip I did this, and then used the catheter as a guide, alongside of which I inserted a narrow pointed bistoury and enlarged the wound downward so that I could introduce two fingers into the bladder The catheter was now withdrawn I could readily feel a large, oval flattened calculus in the right segment of the bladder Passing a stone forceps in alongside of my fingers, I readily seized it I found that the bladder wound was quite small for the stone to pass through, by means of a rotary motion I pushed it out of the bladder through the wound without enlarging the same[2]

The bladder was thoroughly washed out with a 3 per cent boric acid solution A soft rubber T drainage tube was inserted in the bladder, the other end passing through the skin wound I fastened the tube into the skin wound by a single suture through skin and tube The depth of the wound around tube was packed with iodoform gauze, the ends left in the upper part The outer angles were closed, each by two sutures Into the top of the protruding drainage tube, I inserted a T tube of tin ore, over each arm of which a rubber tube was passed The rubber tube extended over the abdomen of the patient, well over each side The dressings were applied so as to have the ends of these tubes protrude The patient by this arrangement can lie on either side and the urine is carried by means of these tubes into a urinal or dressing, and thus the wound is protected, in a measure at least, from the effect of the escaping urine

The operation occupied about half an hour I could have done it in about twenty minutes, but a little time was lost on account of a hitch on the part of the assistants' It can easily be accomplished in a careful manner in fifteen to twenty minutes time The patient reacted well from the operation Not a tablespoonful of blood was lost Twenty-four hours after the operation the temperature was 100, which, however, in the next twenty-four hours fell to normal

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[2] Mulberry calculus, 1¾ inches long, 1½ inches wide weight 1 oz, 2 drachms

On the third day the dressings were changed and the packing removed Tube left undisturbed Patient is doing well, rests and has no pain, urine escapes through tubes as above described [3]

Remarks—The experience gained by an operation by a new method in a single case can not usually be taken as a criterion of the value of a method, unless its merit has been established by other operators Its decided advantage over the median vertical incision was, however, clearly demonstrated and especially the ease with which the pre-vesical space is laid open, and the lessened danger of wounding the peritoneum This is easily understood when we bear in mind that in the transverse incision, we cut parallel with the lowest fold of the peritoneum, as it is reflected over the fundus of the bladder and in a direction that is oblique to it, or in other words away from it

In the median vertical incision the opposite obtains, as here we cut directly at right angles to the peritoneum, and directly over it in the umbilical end of the wound

Based on the experience of others, and my own in the case reported, I would offer the following conclusions

1 That the transverse incision is more easily executed from a technical standpoint

2 That it affords more space in which to work in the depths of the wound than the median incision, and hence superior for any exploration of the bladder, for whatever condition

3 That there is less liability to injury of the peritoneum, because the knife is used parallel with and on a level below its lowest fold

4 That it is unnecessary to inflate the rectum

5 That it is unnecessary to inject the bladder, and consequently, the risk of injury to the organ is avoided, which in the aged is an element that should always be considered

6 That the catheter in the bladder is a safe guide to the location of the fundus and anterior wall

7 That with the catheter as a guide, the bladder can be incised with ease and facility

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A PUNCTURE WITH A BONE OF A LIVING FISH IN THE WEST INDIES, FOLLOWED BY LEPROSY IN A CAUCASIAN SUBJECT [1]

BY ALBERT S ASHMEAD, M D
LATE FOREIGN MEDICAL DIRECTOR TOKIO HOSPITAL, JAPAN
NEW YORK

I have had an opportunity of examining a case of leprosy in this city, which has been first seen by a medical friend of mine, who knowing that this disease was a subject in which I had always been deeply interested since my sojourn in Japan and that I had published a number of articles about it in the medical papers, has been kind enough to let me study the case

C G, aged 35, but looking 50, of more than average intelligence, of intemperate habit, born in Germany, of German ancestors, came when 2½ years old from Germany to the port of New York, has been married twenty years, has five living children all healthy, one a married daughter, who has a child of 7 months He says he was healthy until six years ago The following is his history He lived in New York until he was 18, when he went to Brazil, as an engineer's storekeeper, the trip occupied two months He left there and went to Aspinwall as waiter and chief cook on a ship belonging to the Pacific Mail He remained in this service two and one-half years when he changed to the Savannah line, as cook, and remained in that service four years Then he was employed by the Ward line running between New York and Havana, Matanzas, Tampa, Tuxpani and Vera Cruz He was with that line one year He then worked six months on a steamer running to Santiago, Cuba, Nassau, Cienfuegos He went then to the Clyde line, running between New York, Charleston and Jacksonville, where he remained one and a half years After that he entered the service of the Red "D" line, running between New York and Curacao, Puerto Cabello and La Guayra During all this service his family lived in New York, and his employment on his trips was always that of cook, storekeeper or waiter

Six years ago he was on board a steamer running between Tampa, Key West and Havana, on which he had been employed during the preceding four months Just as he was leaving Havana, from which the run to Key West is only a night's trip, while cleaning a red snapper, a fish which among sailors has the reputation of possessing a poisonous fin just behind the gills, he punctured with the bone of that fin the tip of the thumb of his right hand, through to the bone. The next morning he felt no pain in his hand, but the arm was beginning to swell, it continued to swell for some days, then the swelling subsided, the whole process lasted a week At the climax it was about three times its natural size, the swelling extending to the shoulder The man was under the treatment of the U S Marine-Hospital surgeon at Key West, and gradually recovered Immediately afterward an eruption appeared on the front of the chest, the head and face Watery vesicles appeared, which broke and formed huge scabs [2]

Dr Daniel M Burgess, U S Marine-Hospital Inspector at Havana, treated him for this, but he did not define the case as having any relation to leprosy. When these eruptions were cured, after some months, there remained red blotches which crossed his nose and cheeks, and appeared symmetrical on his forehead over the eyebrows Nothing appeared on the chest, where the eruption had been localized These red blotches gradually thickened, hardened and became nodulated He first noticed this on the sides of the nose None of the blotches had at that time shown on his ears This condition continued increasing, his ears became tuberculated, and six months ago Dr Burgess of Havana, first declared the case to be one of leprosy Soon after the first outbreak of blotches, the patient had discovered a numbness in the ulnar side of his forearms, he had no numbness in the feet until two years ago, at a time when my medical friend treated him for pleurisy and pneumonia The hardness and hypertrophy about the wings of his nose, cheeks, eyebrows and ears was gradual, it began three years ago

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[3] February 20 Wound closed Urine passing per viam naturalam

[1] This case has not been reported before It has been in charge of the physician who now attends it for two years His diagnosis of leprosy was not made until three months ago when another physician at the Presbyterian Hospital, N Y, discovered the lepræ bacilli The first diagnosis of leprosy, as was afterward learned was made in Havana six months ago, by Dr Burgess My own diagnosis of leprosy is the third in the case

[2] A vesicular or porrigonous eruption is, in China and Japan, frequently the initial lesion of leprosy

Present Condition —February 17, nose hypertrophied, three times its natural size, tuberculated, nodulated, both ears hugely hypertrophied, tuberculated and pendulous the whole forehead hypertrophied and nodulated, cheeks, upper and lower lips, fingers of both hands hypertrophied and nodulated, the back of both forearms, tuberculated Color of skin, face, neck, hands and forearms, a deep tawny ue The tongue can not be bent from right to left, , is bent over to the right side He has the well-nown leonine face expressive of leprosy The patient as a feeling of stretched numbness in the ulnar side f his forearms The toes of both feet have been umb these two or three years Ulceration on the ips of the three larger toes of both feet He has just eturned from a trip to Venezuela, which lasted wenty five days, and is now laid up on account of he sores on his feet He has no history of any disase, except chagres fever, seven years ago, and of neumonia two years ago I saw four generations in is house, his mother apparently in good health, his narried daughter and his two sons, aged 5 and years, and the married daughter's infant son seven months old The married daughter is of a strikingly pearly white complexion Both sons present a similar complexion The infant grandson is in robust health There is no history of leprosy in the family in any preceding generation I cut one of the tubers from the third finger of his left hand, and from sections made with the microtome, stained with carbol fuchsin and methylene gentian violet, found lepræ bacilli in abundance, spherical accumulations of bacilli or bacilli heaps, the so called "leprosy cells"

Here we have, then, a man who had been exposed to the influences of leprous countries for at least eleven years, who received a wound from a fish caught in what we may call leprous waters the wound is peculiar in that it was anesthetic at the start, when it healed, the consequent swelling abated, there supervened a peculiar vesical eruption, which on breaking forms huge scabs When he recovers from this, there appears with complete evidence the erythema or the plaques of leprosy, followed by hypertrophy and nodulation, these also characteristic of leprosy From this moment, beyond doubt, the case was manifestly leprosy, although the truth had not been recognized in the earlier stages

Now these questions arise

Did the patient have leprosy germs latent in his system at the time of his accident?

Was he inoculated with leprosy at that time?

If there were such latent germs, would they have remained latent had not such an accident occurred?

Is it necessary, when leprosy germs are latent in the body, that an exciting cause intervene to develop them into activity?

Is it the case in leprosy as in tuberculosis, that germs may remain latent always?

I must remark here that everything seems to show that there are fewer chances of evident inoculation of leprosy germs than of tubercular germs, and that therefore there is greater probability of latency of leprosy than of tuberculosis

There has always been a suspicion, for obvious reasons, that fish has something to do with leprosy, and I believe myself in intermediary marine host function Can the case in hand be considered as corroborative of this opinion?[3]

Hansen himself says that leprosy if not contagious, can at least be inoculated The patient in question is living in fond relations with four generations, in a tenement house containing twenty families, in a non-leprous country He is a New York man, having come here at 23 years of age, and therefore not to be shipped home, as might a Chinaman What is our duty to the community, to the inmates of the tenement, to the man's family, and to himself under these conditions? If he is reported to the board of health he has only to expect the utmost rigors of charity, he will be put in a tent on some island, and condemned to perfect isolation, his family will suffer by the report

If this patient is not reported and isolated, according to Hansen's belief, sooner or later, some member or members of his family may become inoculated (His married daughter and his two boys have now the peculiar pallor which in the East, is considered as premonitory of the disease) If they do become inoculated with leper germs, or if they are already inoculated with them, and yet escape the outbreak, may we not suppose that being in a non leprous country, and no incident like that which originated the disease in our patient occurring, the germs will remain forever latent? My own belief as to the contagiousness or the inoculability of leprosy is that the measure of danger is in the individual, the race and place of residence There is much more danger of leprosy here in New York from the cohabitation and breeding of a leper with a healthy woman, (a child was born to our patient's wife one year after his outbreak of leprosy) than from contact or any such relationship The Oriental law is that a leper shall breed with his own generation of leprosy, a leper belonging, let us say, to the second generation, that is being the son of a man or woman in whom the disease first appeared, will be allowed to marry the daughter of a man or woman in whom the disease first appeared, and so for the other generations In this way the susceptibility to leprosy becomes extinct in the fourth generation and the leper germs will always remain latent afterward in that family

A CASE OF GUMMA OF THE CEREBRUM

Read before the Chicago Pathological Society Dec 10, 1894

BY D R BROWER, M D, AND D D BISHOP, M D

CHICAGO

This is a case of syphiloma which is in some respects very interesting I have no regular report of the case but will simply recite the symptoms that were present, and Dr Bishop will show his very carefully prepared specimens

The patient, aged 52, was brought to me by his family physician, October 23 At that time he had epileptiform attacks of the left upper extremity, the attacks beginning in the little finger and ring finger and gradually involving the hand, fore-arm and arm

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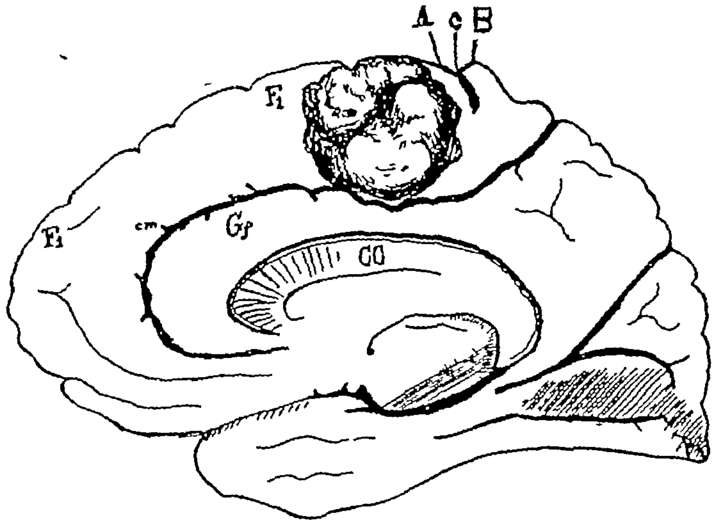
[3] Kaurin and Beaven Rake are of opinion that there is possibly some intermediary stage through which the bacillus passes, or some undiscovered host in whom it undergoes a further development ere it can reproduce the disease, which has so far eluded our observation

But when the paroxysm began in the little and ring fingers the patient could, by a strong mental effort, especially when aided by his grasping something, stop the paroxysm at that point, and it was a very uncommon thing for the attack to get beyond the muscles of the fore-arm or possibly the arm But if he failed by this effort of the will to arrest the paroxysm, then the facial muscles and afterward the lower extremity were also involved in the movement Consciousness was perfectly maintained during all of these convulsive seizures, except the first one, which occurred while he was in Wisconsin fishing, and he fell down then in the boat That probably was a general movement These attacks were very frequent, fifteen or twenty occurring in the course of the day His arteries were very much degenerated, especially the radial I expressed the opinion that we had a localized brain tumor or a meningitis probably in the arm center of cortex I advised him to go to the Presbyterian Hospital for observation and later on, if necessary, an operation could be made We immediately placed him on large doses of iodid of potassium and after three or four days the convulsive seizures disappeared He remained here until November 5, that is about two weeks The paroxysms had entirely stopped and I sent him home, supposing he had recovered from his illness I advised him to continue the iodid of potassium On November 17, twelve days after he left, his physician wrote me that there was hemiplegia of the side that had been the seat of the convulsive seizures I at once wrote to the physician to bring him back in order that an operation might be made He was accordingly brought back, and died four days afterward



Inner Surface of Right Hemisphere (Gray)

The portion occupied by the gumma is shaded A, ascending frontal, F 1, superior frontal convolution c Rolando's fissure, c m colloso marginal sulcus Gf, gyrus fornicatus pushed downward by the growth

The seat of the tumor was not cortical, as I supposed it to be, but subcortical It involves the paracentral lobule and extends deeply into the centrum ovale, and doubtless began there I think there can be no doubt that it began by making pressure upon the fibers that come from the upper extremity center and gradually extended until it produced complete paralysis The external aspect of the hemisphere is perfectly intact When the operation was made by Dr Senn, failing to find anything abnormal we concluded the diagnosis was wrong, and inasmuch as there was a history of an ear abscess that began fifteen or twenty years ago, with an occasional discharge, we rather jumped at the conclusion, in the operating room, that it was an abscess and not a gummata, and the brain was explored in every possible direction for pus, but it was not found Dr Senn then cut into the mastoid cells expecting to find a mastoid abscess, but failed The dura mater was thickened and adherent, as though he might have had a pachymeningitis some time previously

This case serves to illustrate again the fact that you can not locate Jacksonian epilepsy on the external aspect of the hemisphere, always, even when you have a typical Jacksonian epileptic paroxysm, for sometimes it is due to a lesion beneath the centers, involving the centrum ovale, and again, you may have an extensive abscess in the petrous portion of the temporal bone and no cerebral abscess accompany it The location of the tumor is such that the arm center must have been irritated first and then with the extension of the tumor paralysis came on

Dr Bishop will give us the results of his careful pathologic and microscopic examination

NECROPSY

Nov 23, 1894, by Dr D D Bishop Save for the incisions over the right mastoid and right molar regions, made for operative purposes, no abnormal conditions were found in the scalp or skull

Dura mater This and its falciform process were adherent over the external and internal surfaces of the right cerebral hemisphere at the motor area

Brain and pia mater The dura removed, a growth is seen projecting into and rising above the superior longitudinal fissure, and apparently growing from the interior of the right hemisphere Upon removal of the brain and more careful examination the following conditions were noted The growth projects from the internal and superior surfaces of the hemisphere, pressing aside the cortical substance The presenting surface is elliptical, the long axis corresponding with that of the cerebrum The surface measurements are six by five c m Its posterior margin is one and one half c m in front of the depression marked by the junction of Rolando's fissure with the superior longitudinal fissure, while its anterior margin extends well forward into the ascending frontal and superior frontal convolutions But very little was visible upon the superior surface of the hemisphere The inferior margin reaches externally as far as the gyrus fornicatus

Upon section, the growth seems to spring from the centrum ovale and is about four c m deep It projects into the superior and ascending frontal convolutions and gyrus fornicatus, bulging out through the colloso marginal sulcus It is covered upon its unattached surface by the pia mater which is only slightly adherent, blending off at the borders of the growth into the surrounding pia mater of the unaffected brain At no point does the pia seem to be in close relation to the growth as one would expect to find if the origin were in that structure On the other hand, it springs out firmly from the centrum ovale, bulging out through the brain substance as before stated

The pia mater over the convex free surface of the growth is thickened and its vessels engorged

The interior shows a central area of white softening, about this a slightly yellowish zone, while the periphery is light gray in color and presents numerous distended vessels, some of which are distinctly thrombosed The mass then blends off insensibly into the deep cerebral tissue The petrous portion of the temporal bone was necrotic and contained some inspissated pus, but there was no extension to the mastoid or other contiguous structures

The basal vessels were apparently normal, the ventricles empty and no changes in the basal ganglion Save for some paleness there were no changes in the thoracic nor abdominal viscera Cultures on glycerin agar and nutrient gelatin from the interior of the growth remained sterile

Microscopic examinations of the cerebral growth Specimens were hardened in alcohol and sections made, including some of the surrounding brain and the new tissue down to the area of necrosis There were found, engorgement of and exudation about the pial vessels The brain structure about the growth shows the ganglion cells well preserved, some edema and a slight cellular infiltration of the perivascular spaces Here there seems to be no increase of connective tissue In the outer portion of the growth proper there are numerous thin-walled blood vessels, many of which are distended with blood corpuscles, and in not a few are leucocytic thrombi At some points there are small areas of hemorrhage About the vessels there is quite a marked emigration of polynuclear leucocytes, some round cells with solid nuclei, and a considerable number of cells containing rounded or oval, clear, vesicular nuclei of variable sizes, only a few are spindle shaped These latter cells are most numerous just outside the vessels, although some are remote from them, and are most likely proliferated endothelial cells arising from the perivascular lymphatics Such an interpretation is born out by the pressure of collections of similar clear nuclei here and there, having an arrangement much like the nuclei of giant cells of tuberculosis, but upon close examination there is no cell body, while a central lumen is present around which the nuclei are radially arranged They would seem then to be proliferated endothelia of lymph vessels The multipolar ganglion cells are present in the growth, showing a location in the brain rather than upon it They are often necrotic, presenting nuclear fragments The portion nearer the central softening is more edematous, there are fewer vessels and the exudative and proliferative cells are less numerous Here the nuclei are often absent or faintly stained, the cells staining diffusely with eosin

There are no caseous areas nor giant cells so suggestive of tuberculosis It is also worthy of note that there is little attempt of fibrillation of the connective tissue cells and consequently slight production of connective tissue fibers

To sum up The growth consists of granulation tissue which is edematous and necrotic in the interior, while in the outer portion the tissue approaches more nearly the adult type of connective tissue, there being less edema and necrosis and some attempt at fibrillation of cells Sections stained in fuchsin-anilin water, decolorized with 5 per cent sulphuric acid and alcohol Contrast stain with methylene blue, and examined with one twelfth oil immersion lens and No 3 eye piece, Leitz, showed no tubercle bacilli or other organisms In the absence of any structure suggestive of tumor, likewise the absence of tubercle bacilli or tuberculosis in any of the organs, it seems one is justified from the findings to say that cerebral gumma is the most probable diagnosis

A CASE OF CEREBELLAR ABSCESS, SINUS PHLEBITIS, AND SUPPURATIVE OTITIS MEDIA

Read before the Chicago Pathological Society Dec 10 1894

BY JOHN I MORRIS, M D

CHICAGO ILL

Olof J, age 27, Norwegian, admitted to Presbyterian Hospital Oct 1, 1891, occupation clerk, family history negative Previous illnesses When 14 had tonsillitis which lasted six months, ending in a tonsillar abscess, which was ultimately lanced Three times during the past year he has fallen down in a "faint," as he describes it These spells would last about five minutes, after which he would recover and be enabled to resume his work Present illness began four weeks before admission to the hospital, by sudden pain in left ear followed by a chill The earache was persistent, but for two days he continued his work, when he was obliged to take to his bed and consult his physician Next morning he had a sudden exacerbation of pain followed by a discharge of pus from the left ear On this day he first noticed a slight frontal headache which has gradually increased in severity On this third day of his illness he vomited his dinner Subsequent to this he had vomited about once each day Four days afterward he had a second chill, after which he was delirious, the delirium lasting about ten days During this delirium he had four or five chills at irregular intervals At this time, owing to the masked symptoms presented, a diagnosis of probable typhoid was made by his physician Up to the time of admission to the hospital he had had no dizziness, earache or other subjective symptoms, was constipated, but had good appetite

On admission to the hospital, his condition was as follows

Pulse 66, temperature 90, respiration 20, countenance pale, drawn and anxious, breath, fetid, tongue foul and extremely red, eyes closed, as patient explained, to exclude the light, intellect slightly dull and sluggish, but perfectly rational when addressed, eye and face reflexes normal, no tender points discoverable about ear or cranium abdomen boat shaped An extremely foul odor emanated from the left external auditory meatus, discharge slight if any Internal jugular on left side was palpable as a whip cord-like structure, and seemingly much engorged

Urinary analysis Specific gravity, 1020, trace of albumen, extremely foul odor, and large quantities of biliary coloring matter

During the first eight days after admission into the hospital, temperature from 98 to 91 6 degrees F, pulse ranged from 70 to 50, respiration 20 to 16 Enematas were always necessary, urination free and sometimes involuntary, vomited almost regularly once each day and always after eating a few mouthfuls, vomit would be projectile and sudden

Patient when placed upon his feet would stand steadily with eyes open or closed, no ataxia, knee jerk normal, fundus of eye was not examined, at regular intervals would suffer extreme exacerbations of frontal headache, which would always be followed by a fall of temperature to 95 or less, and by more or less drowsiness

A diagnosis of abscess of the brain was made, but from lack of focal symptoms its locality could not be determined, and it was deemed unwise by the consulting surgeon to operate immediately

On October 12 convergent strabismus and diplopia were recorded, left external rectus paralyzed, left pupil irregular in outline Patient was much brighter mentally

On the night of October 12 the pulse went up to 120, temperature to 100 degrees and respiration to 24, patient suffering extreme pain Under narcotics patient fell asleep about 3 A M At this time the pulse was regular, 94, temperature 96, respiration 16 For the next two days, with the exception of pain being more severe than formerly, patient's condition was the same as during the first eight days of his stay in the hospital

On October 15, at 9 45 A M, patient was examined by a member of the house staff and his condition seemed unchanged Pulse was regular and of good quality, ranging about 70 or 75 Fifteen minutes later, patient expired very suddenly and quietly

The autopsy was conducted by Dr Bishop and myself It gave the following information Meningeal vessels much injected, no external bulging, ventricles negative On lifting the brain about an ounce of pus escaped from under the cerebellum from the vicinity of the left lateral sinus, although great care was used in delivering the brain it was impossible to state whether the pus was free or not In the anterior part of the left hemisphere of the cerebellum an abscess about the size of an English walnut was found in the substance of the cerebellum The meninges evidently formed the inferior wall of the abscess The groove for the left lateral sinus was filled by a plastic phlebitis for about the distance of an inch above and below the abscess Any connection between the abscess and the internal ear was undiscoverable The interior of the petrous bone was found to be filled with inspissated pus and osteo porotic cancellous tissue All organs and contents of thorax and abdomen negative Stab cultures from the escaping pus, from the interior of the lateral sinus and from the abscess cavity were made Bacteriologic investigations of these cultures were conducted by Dr Weaver who was unable to demonstrate anything more than a putrefactive organism The organisms from the three sources were demonstrated to be the same

A CASE OF NODULAR TUBERCULOSIS OF THE CEREBELLUM

Read before the Chicago Pathological Society, Dec 10, 1894

BY E R LE COUNT, M D

CHICAGO

Clinical history kindly furnished by Dr F J E Ehrmann, Resident Staff, Cook County Hospital

Wm B, single, white, age 28, English Admitted to service of Dr Earle August 19, 1894 Stated that he had been out of work since March, on account of persistent neuralgic pain in both fore-arms Of late, has complained a good deal of headache, tenderness over occipital region Had gonorrhea three times, chancroid three years ago Mental condition apathetic, sleeps most of the time and only with difficulty aroused Eyes, pupils dilated and react slowly Eye grounds show distended veins on each side Tongue broad and flabby Chest, examination negative Abdomen, negative General condition good, well nourished When aroused, answers questions intelligently Headache worse on motion, no pain elsewhere Pain in occipital region radiating toward frontal region Urine amber colored, acid, 1015, no albumen Temperature varied between 96 4 and 99 4, as a rule, was below normal Pulse 64 to 80, respiration 20

Patient continued in this condition until September 23, when death occurred Gradually apathy merged into stupor, a semi-comatose condition, and full coma

NECROPSY

Necropsy showed several (six to eight) nodules the size of small hazel nuts in left cerebellar lobe, some separate entirely from others, some deeply seated, and others in connection with the meninges On section, these showed softened centers There was also tuberculosis of the lungs, exact form and degree not stated

Microscopic examination Well marked necrosis, non-staining centers to all nodules examined, surrounding zone of round cell infiltration not very marked, very few giant cells and those not typical of those seen in tuberculosis elsewhere, tubercle bacilli found by staining with carbo-fuchsin and methyl blue—not numerous, found only in periphery areas of necrosis in the zone of round cells

Conclusion Tuberculosis of the cerebellum, corresponding to what is known as solitary tubercle But there were more than one, and some were isolated from others and therefore the term, nodular tuberculosis, meaning areas of tuberculosis larger than the usual forms of tubercles would perhaps not be inappropriate

DISCUSSION

Dr A R Edwards—I was especially interested in the case Dr Le Count reported, because of the fact that Dr Ehrmann, of the house staff, and myself, had an opportunity to study the case clinically and make an ante-mortem diagnosis of the tumor, as well as its location There are several points in the clinical history that were not recorded on the history sheet, of which I have notes Although the patient was markedly paretic on both sides of the body, there was absolutely no localized paralysis in any member Furthermore, there was no disparity between the two sides, the ocular muscles were perfectly normal and the reflexes were but slightly increased There was no persistent vomiting, the patient vomited only once We noted, from time to time, that there was never a slowing of the pulse The patient complained of vertigo, even when he sat up in bed, "saw things moving around," as he expressed it Regarding the ophthalmoscopic examination, not only were the retinal veins greatly engorged but the arteries were decidedly small, and there was, in addition, a small patch of choroiditis in the right eye Here and there through the retina was a reddish color, and even opalescence of the disk, so that the condition was illustrative, not only of choked disk but also of optic neuritis and retinitis Besides that there was one feature among the few focal symptoms which put us in the direction of making the local diagnosis, the fact that motion, so far as the head was concerned was perfectly free from side to side but it hurt him considerably to throw his head in a forward direction That suggested some affection in the posterior fossa Then with the vertigo and ataxia, the marked choked disk and this stiffening of the muscles of the neck, as well as the localized tenderness there, the diagnosis was made of a cerebellar tumor As to the nature of the tumor, an abscess was thought of The patient declared that he had never had any venereal disease Examination of the ears showed nothing abnormal He had no temperature, and nothing in the periphery of the body or in the heart that would make us think of metastatic abscess Syphilomata are not as frequent in the cerebellum as elsewhere His gait was ataxic

A careful and thorough anti-syphilitic treatment was instituted, two careful inunctions being given, one in the morning and one at night, and he was given large doses of iodid That was continued three or four weeks, with absolutely no improvement up to the time the patient died

Dr F J Ehrmann—I have nothing to add to the report, except to say that the patient died unexpectedly, how that can be accounted for I do not know, it might have been caused by pressure on the medulla

Dr Sanger Brown—These cases have certainly been very interesting to me In the case of Dr Le Count it seems to me very rare discrimination was displayed in arriving at the diagnosis by exclusion and in other ways, but I think I should hardly have felt warranted in being so certain as to the position of the tumor as they seem to have been, inasmuch as the ataxia does not seem to have been strictly a cerebellar ataxia It would seem to me, from the description given, that it might have been accounted for by the vertigo It is a generally conceded fact that the cerebellar gait or cerebellar ataxia does not occur unless the middle lobe of the cerebellum is affected, and it appears that the middle lobe of the cerebellum was not affected in this case It seems, in fact, that the symptoms were more particularly due to irritation than to pressure Another point might be mentioned in this connection and that is that in tumor of the cerebellum the knee jerks are generally absent and they were not absent in this case A few months ago we had at the Post Graduate Medical School a case of optic nerve atrophy and blindness, with persistent turning to the left and a cerebellar gait where the tendency was to sway She did not complain particularly of vertigo The knee jerks were entirely absent I made a diagnosis from the history, and for various reasons, of cerebellar tumor and the post mortem justified the diagnosis Within two or three weeks we had a case very similar in many ways, in which there were no focal symptoms but optic nerve atrophy and loss of the knee jerk, and again I diagnosticated cerebellar tumor There was evidently a growth within the cranium somewhere, but the autopsy showed a large cerebral tumor in the anterior lobes, so the diagnosis in that case was entirely wrong It appears however, that at the operation, after I had made my examination the operator was given a history of some sensory symptoms in one side of the face and in one arm, and he operated on the supposition that there was a tumor adjacent to the motor area, and he was right

It was noted in the case reported by Dr Morris, which was extremely interesting, that there was no ataxia, and yet the disturbance in the cerebellum must have been very much greater than in the last case The variations in temperature and the subnormal temperature I think were very interesting, and it ought to be recorded as an interesting clinical fact for which at present we can offer no sort of reasonable explanation

The case reported by Dr Brower, of gumma of the cerebrum, was to me exceedingly instructive and I do not think we would be warranted in regarding Dr Brower's diagnosis as a mistake I can imagine how very much surprised he must have been, with that array of symptoms, to find nothing on the surface of the brain, but the growth was just beneath the surface involving the tissues and the fibers passing off I did not learn in that case the condition of either the knee jerk or the fundus

Dr Brower—The fundus was normal The knee jerk was slightly exaggerated

Dr Brown—It would not be necessary, with the symptoms that were present, to examine the fundus in order to make a diagnosis, but it is always interesting to have the examination as complete as possible I did not learn whether great pain in the head was complained of or whether there was vomiting

Dr Brower—There was no vomiting and no special pain in the head after the onset of these symptoms, the man had had headache for several years previously

Dr Brown—I should think that would make the case very much more interesting, more unique How could such a tumor have existed (and it must have been a considerable time in forming) without producing one or two of the three cardinal symptoms in cerebral tumor, that is the focal symptoms, the paralysis or convulsions, the vomiting and the choked disk or optic neuritis Those are considered the three cardinal tests for cerebral tumor

Dr H T Patrick—These cases have been very interesting and I wish to add just a word Bruno, several years ago, called attention to the fact that large tumors in the frontal lobes do cause the cerebellar gait and other symptoms attributed to the cerebellum Regarding the case of Dr Brower, I beg leave to take exception to what I understood to be the meaning of Dr Brower and Dr Bishop as to the place of origin of the tumor, that it sprang from the centrum ovale I think the position of the tumor, as well as the origin of most cases of gummata would lead us to suppose it sprang from the meninges of the surface and grew inward, which illustrates a very important point, not sufficiently emphasized, that cortical epilepsy so called, is often produced by subcortical lesions This is of importance, not only in making the diagnosis but in the treatment of these cases by operation, because I think it necessitates a large opening of the cranium and if nothing is found in the cortex, at least on the surface it is advisable in most cases to make a free incision in the brain This has been shown to be not a serious traumatism, if the incision is made parallel to the fibers leading from the surface, it adds little risk to the operation, does small damage to the patient and increases the possibility of finding a lesion In this case I think such a procedure would have led to the discovery of this tumor because just beneath the cortex, in the arm center, which was the suspected location was an area of secondary softening due to the tumor which would have been found and probably have led to the discovery and removal of the tumor In connection with this in cases of Jacksonian epilepsy the fits may be caused by a very small lesion in the center corresponding to the fits, or a larger lesion in the neighborhood so that in many cases the lesion is not to be sought for necessarily, in the center corresponding to the convulsions Another point I would call attention to, is that in many of these cases the symptoms are not due to the growth but to a secondary vascular trouble softening ordinarily, and the hemiplegia in Dr Brower's case was due not to the increase in the size of the growth, but to the secondary softening which was easily perceived beneath the tumor interfering with the motor fibers For this reason I think it is particularly important to make a diagnosis as early as possible and to be on the lookout I have a case now under observation of a man who suffered for a couple of months from severe and constant headache There were no focal symptoms whatever except slight numbness on the right side followed by a very slight weakness which did not incapacitate him from work and shortly before I saw him a very slight degree of aphasia He was seen by two excellent physicians the first recognized no cerebral trouble, the other did very promptly, but he did not examine the man's eyes or he would have found a choked disk and could have submitted him to an active specific treatment which would have saved time later Two days afterward the man had a sudden attack of right hemiplegia right hemianopia right hemianesthesia and very marked aphasia assisting very greatly in localizing this trouble which indicated a large area of destruction The question at once arose whether the man should be operated upon immediately or whether we should wait The hemiplegia almost passed off in two days, and the question was still whether we should operate at once or submit the man to specific treatment and wait We decided to wait, put him on large doses of iodid and two days later he had another attack, a very extensive softening with complete right hemiplegia and he is now in a most deplorable condition, whether syphilitic or not he has very little to gain from an operation of any kind

Dr H N Moyer—I would like to make one remark relative to the case of Dr Le Count It seems to me that is a case of rare interest and one very well stated It has been customary to regard the lateral lobes of the cerebellum as not being concerned in the production of the ataxic gait when they are involved, that is, if the middle lobes and middle peduncle remain free there is commonly no ataxic gait But I think we shall have to recede from this position somewhat A case has been published recently, of sclerotic patches in the lateral lobes of the cerebellum, with the typical ataxic gait, the middle peduncle or angles of the root remaining entirely free from any involvement in the process, it being confined entirely to the cortical regions of the lateral lobes This is a case almost parallel to Dr Le Count's case I think it of rare interest as it serves to help clear up some of the doubtful and obscure pathology of the cerebellum

Dr Edwards—As to the size and weight of the tumor in Dr, Le Count's case, although it did not grow in the portion of the cerebellum spoken of by Dr Brown, when divested of all cerebral tissue it weighed forty grammes, and from the fact that the tumor was nearly the size of an egg, it does not seem hard to understand how, although anatomically it did not originate in the part of the cerebellum which is supposed to produce ataxia, yet by secondary pressure it could cause true cerebellar symptoms

Dr Brown—I had a wrong idea of the size of these growths I thought they were small and not capable of causing such pressure as the Doctor speaks of But since he speaks of the tumor being nearly the size of an egg, it is easy to understand how the functions of the middle lobe might be seriously interfered with

DR BROWER—There are one or two things that suggest themselves to me in the further consideration of this gumma I think the growth was a very rapid one Some of the speakers thought it was a slow growth but I think it was very rapid The first symptoms of any great brain disturbance, except headaches which he had irregularly for many years, occurred on October 19, and he died on November 23 He had his first convulsion, in which he lost consciousness, on October 19 and as soon as possible after that his physician brought him to Chicago for further advice in the case I saw him on October 23, the fourth day after he had his first convulsion and I doubt very much whether there was any growth to amount to anything there at that time As to the origin of the growth that is a matter of speculation, but I *am very much of the opinion of Dr Bishop that it* is a growth beginning in the centrum ovale, rather than in the meninges, because I believe if that growth had begun at the cortex in the leg center where it is located, we should have had more disturbance of the lower extremities Except in his first attack, when the convulsions were general, it was very uncommon for this spasmodic movement to extend beyond the muscles of the hand and the fore-arm, rarely involving the face and very seldom indeed the leg I suppose I saw him in a dozen of these attacks in the ten days he was here and I noticed no spasmodic movement of the face and none of the leg It seems to me if this tumor had had its origin at the cortex in the leg center where it was located, and involved the fibers from the arm center secondarily, that the symptoms would have been somewhat converse, we ought to have had more spasmodic movement in the leg and less in the arm, but so far as my observations were concerned there were *no* movements in the leg at all The hemiplegia began with the arm and in the course of thirty-six hours involved the entire side of the body So taking the array and succession of symptoms, I should be inclined to suppose that it began in the centrum ovale There was no improvement in the hemiplegia after it began All the symptoms disappeared under the use of large doses of iodid of potassium I am quite sure the tumor must have made rapid growth

DR LE COUNT—In regard to the size of the cerebellar tumors, there were eight of these tumors found and they would average a centimeter to a centimeter and a half in diameter, so that would make quite a mass in the left lobe that certainly could cause pressure upon the middle lobe of the cerebellum These tumors were more or less spherical, and it was for this reason that I gave the title of nodular tuberculosis, which does not seem to me to be inappropriate Tuberculosis may affect the cerebellum or the cerebrum The usual form is tubercular meningitis We have very rarely a diffuse tuberculosis throughout the substance of the cerebellum or cerebrum, and occasionally this form of nodular or solitary tuberculosis As there was not a single area, I thought the title of solitary tuberculosis was not appropriate The discussion, as usual, has taken mainly a clinical aspect I would have been glad if it had to do with the etiology at least of these cases The consideration of the primary focus in the cerebrum and cerebellum is considered very conservatively by most authors Osler mentions it as occurring Simon, of Nancy, last year made twenty-seven post-mortems in cases of tubercular meningitis and in twenty-five was able to demonstrate a primary focus else where The primary focus in this case was probably in the lungs The bronchial glands were found enlarged The next question that arises is, What is the course taken by the infection to reach the cerebellum or cerebrum? In the *majority of cases certainly* by way of the lymph vessels, as Weigert has shown in investigating the location of tuberculosis Then what is the route of the infection in a case of this kind? If we are to presume tubercle bacilli in the lymph vessels, why not a tubercular meningitis and death before we have time to obtain such gross areas as this On the other hand, if we suppose infection by way of the blood vessels, we must take into consideration the fact that there are probably but few bacilli in the blood vessels and they locate at one point and in this way we have time for the development of large gross or nodular areas of tuberculosis Concerning extension by way of the lymphatics, the most usual route, I have been unable to find anything in the literature

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1854–1894

BY JOSEPH JONES, M D, LL D
NEW ORLEANS LA

(*Continued from page 366*)

CHAPTER VII

CONSTITUTION AND CHANGES OF THE BLOOD IN YELLOW FEVER

Recapitulation —Facts illustrating the changes of the blood during the active stages of yellow fever Alterations of the chemical and physical properties of the albumen and fibrin In many cases complete disappearance of the fibrin The disappearance of the fibrin appears to be due, not so much to the action of ammonia, which is so often found in the blood of yellow fever, as to the direct action upon this element, of the febrile poison Character of the blood in the cavities of the heart after death The alterations in the physical and chemical properties of the fibrin and albumen, lead to transudations through the excretory structures of the kidneys While the colored blood corpuscles are not specially diminished in yellow fever, they present under the microscope certain peculiar appearances which are referable to the action of certain extraneous excretory matters in the blood Extractive and fatty matters increased in yellow fever blood Bile accumulates in the blood, in consequence of the profound lesions of the liver induced by the febrile poison, and in consequence of the failure in the excretory power of the kidney The serum presents a golden yellow color in yellow fever Accumulation of the urinary constituents, and especially of the urea and phosphoric acid, sulphuric acid, chlorid of sodium and carbonate of ammonia, in consequence of the profound lesions induced by the febrile poison and its products upon the kidney Breath alkalin from presence of ammonia Blood corpuscles rapidly dissolved, after the abstraction of the blood Blood of yellow fever undergoes rapid putrefaction Cases illustrating the changes of the blood in yellow fever Observations illustrating the changes of the organs in yellow fever and in malarial paroxysmal fever The colored blood corpuscles are not specially destroyed in yellow fever, as in malarial fever The nervous symptoms of yellow fever referable chiefly to the presence of bile and the constituents of the blood in the urine Causes of death in yellow fever Microscopic character of black vomit Relations of the variations of temperature and circulation to the changes of the blood Observations and cases illustrating the relations of the pulse, respiration and temperature Observations of various observers, as Rush, Devoe, Currie, Caldwell, Samuel Jackson, Lewis, Arnold, Chalmers, Lining, Daniel Blair, John Davy, Faget, Leighton and Lyons The cause of the rapid rise and declension of the temperature in yellow fever must be sought chiefly in the changes induced in the blood, and in the organs upon which the circulation and integrity of the blood depends Neither the rapid rise, nor the sudden declension of the temperature can be referred wholly to the effects of the yellow fever poison upon the nervous system Discussion of these propositions

That the blood undergoes profound changes during the period of febrile excitement of yellow fever is manifest even to the casual observer, in the impeded capillary circulation, purplish, jaundiced and dusky hue of the surface, livid blotches, passive hemorrhage from slight abrasions, leech bites, blistered surfaces, and hemorrhages from the ears, eyes, mouth, gums, and gastro-intestinal mucous membrane, which in some cases are characteristic of the succeeding period of calm or exhaustion

Although after the subsidence of the fever, at the end of from two to five days, the skin becomes cool and pleasant, the tongue shows a disposition to clean, and the tips and edges are less red, the thirst abates, and appetite for food returns, and the anxiety and morbid fear of death, which may have been great, subside, and both patient and bystander may regard convalescence as established, nevertheless, a careful examination, will show that the circulating fluid has been altered during the preceding stage of febrile excitement, the eye loses its glistening appearance and assumes a condition of chronic vascularity, of a dull orange red, the flushed countenance gives way to a bloated appearance and dusky, dirty complexion, the sclerotic of the eye is jaundiced, the forehead presents a dusky appearance, which extends also over the neck and chest, the languor of the capillary circulation is indicated in the purple and lobster red condition of the skin, and by the pale marks left by pressure over the forehead, cheek, abdomen, or surface of the extremities, the matters vomited, which at first may be tinged with bile, change to a clear, acid, mucous fluid, and become discolored by small dark specks and flocculi of blood The further changes of the blood are indicated by an increase in the purplish or yellow suffusion of the surface, and by such a loss of vitality and of the fibrinous elements as manifests itself in the raw claret colored surface of blisters, in epistaxis, ecchymosis, bloody oozings from the mouth, ears or anus, excoriation of the scrotum, the copious ejection of dark altered blood from the stomach, with little or no apparent effort, copious stools of black altered blood, and by the foul fetid alkalin breath containing ammonia

It appears to be an error to treat of the changes of the blood as confined to the latter stages of yellow fever, thus regarding the disease as manifesting only two grand stages, viz that of reaction, irritation and fever, and that of unhealthy subsidence or contamination, characterized most prominently by exhaustion of the nervous system, slow pulse and passive hemorrhages

The changes of the blood appear to be continuous from the time of the introduction of the poison to the fatal termination, these changes being increased, and their character being modified as the disease advances, not only by the direct action upon the constituents of the blood by the poison, but also by the addition of certain noxious substances, as bile, urea, carbonate of ammonia, sulphates and phosphates and extractive matters

Certain constituents of the blood, as the albumen and fibrin, are not only altered physically and chemically in the early stages of yellow fever, but as the disease advances, from the cause just specified, certain excrementitious matters, which in a state of health are continually eliminated accumulate in the circulating fluid, and by their direct action upon the elements of the blood, and upon the nervous system, and by their disturbing action upon the processes of digestion and nutrition still further alter the physical, chemical and vital properties of this fluid

As far as my observations extend, the alterations of the blood in yellow fever consist chiefly in

1 Such an alteration of the chemical and physical properties of the fibrin and albumen as leads to the transudation of the latter through the excreting structures of the kidney

2 Various degrees of alteration and diminution of the fibrinous element

In some cases there is an almost entire disappearance of the fibrinous element This disappearance of the fibrinous element appears to be due not so much to the action of ammonia, which is so often present in abnormal amount in the blood of yellow fever, but in the direct action upon this element of the febrile poison From this alteration in the amount and character of the fibrinous element it results that the blood coagulates imperfectly in most cases, and the clot is voluminous and soft The amount of serum formed is small, and upon standing, the clot frequently dissolves, leaving a thick, non-coagulable grumous blood The blood taken from the cavities of the heart and large blood vessels after death is frequently black and fluid, and if, as is sometimes the case, fibrinous concretions are formed in the cavities of the heart, they are small, soft, and of a bright golden yellow color, and much smaller in size and less firm than is usual in attendant diseases near the fatal issue, with similar retardation of the circulation in malarial fever In the latter disease the formation of firm, light colored blood clots is, as I have shown, by a large number *of observations, not* only frequent, but also a cause of death in certain cases of pernicious malarial fever

3 While the colored blood corpuscles are very slightly diminished in yellow fever they present under the microscope, certain peculiar appearances, which appear to be referable to the action of certain extraneous *matters in the blood*

4 Increase of the extractive matters of the blood

5 Increase of the fatty matters

6 Accumulation of bile in the blood in consequence of the profound lesions of the liver induced by the febrile poison, and in consequence of the failure of the excretory function of the kidneys Many of the changes of the blood, as well as certain cerebral symptoms, may be dependent upon the presence and action of the biliary constituents Even the nausea and vomiting, as well as the depression of the pulse, and the nervous agitation, delirium and coma, may to a certain extent be referred to the same cause The serum presents a golden color in yellow fever This condition of the serum is due to the presence of bile and may be present also in grave cases of paroxysmal malarial fever If a drop of yellow fever blood be allowed to fall on a piece of bibulous paper the center will appear of a brilliant scarlet, while around the central accumulation of colored blood corpuscles extends a ring of bright golden colored serum

7 Accumulation of the urinary constituents, and especially of the urea and phosphoric acid, sulphuric acid, chlorid of sodium and carbonate of ammonia, in the blood, consequent upon the profound lesions induced by the febrile poison and its products upon the kidneys Not only is the blood alkalin in many cases of yellow fever, but the blood contains ammonia, resulting from the decomposition of the urea, the presence of which may be rendered evident by various means, as by the addition of potassa, soda or lime, and in some cases the ammonia is so abundant as to be demonstrable without resorting to these reagents As the phosphoric and sulphuric acids are retained in the blood when the function of the kidneys is embarrassed or suppressed, they unite with the ammonia and thus diminish the alkalinity of the blood and render the addition of potassa or soda or lime necessary in certain cases for the demonstration of the ammonia The reaction of the yellow fever blood is alkalin during life, but it rapidly changes in some cases to the acid reaction after death, from the rapidity of the putrefaction, and also from the development of numerous forms of low organization

8 Rapid dissolution of the colored corpuscles, after the blood is abstracted from the body, either

during life or after death The rapid alteration of the investing membrane of the colored blood corpuscles in the blood of yellow fever, after the abstraction of the blood from the vessels, appears to be intimately related to, if not absolutely dependent upon, the physical and chemical action of the biliary and urinary constituents retained in the blood During life the blood corpuscles, in virtue perhaps, of their vital endowments and of their relations to the oxygen received during respiration, resist the solvent action of the bile, urea and ammonia, but after the blood is abstracted and loses its vitality and is exposed in vessels these agents excite their characteristic actions It results also that in many cases the serum separating from the clot presents a bloody florid color, not only from the incomplete separation of the colored corpuscles during the process of coagulation, but also from the dissolution of the globules, and the escape of the coloring matters of the blood I have recently embraced the opportunity of testing the efforts of human bile upon the blood corpuscles I selected for this inquiry the blood of the *amphiuma* in which animal the globules are comparatively of great size The bile rapidly dissolved the investing outer membrane, and liberated the internal nodulated nuclei

9 Rapid putrefaction of the blood of yellow fever, after its abstraction from the living body, or from the large vessels after death

These conclusions have been established by careful and laborious observations at the bedside and in the laboratory, the nature and method of which will be illustrated by the following observations

The following analysis of the blood in a severe case of yellow fever which terminated fatally, on the sixth day, with black vomit and urinary suppression, presents a correct view of the blood composition on the fourth and fifth days, in severe cases of this disease

The fibrin in 1,000 parts of blood extracted from the arm of this patient being 0 271, or not more than one-tenth of that of healthy blood This diminution of the fibrinous element was attended by passive hemorrhages, black vomit, etc

Specific gravity of blood, 1055 6, of serum,	1027
Water in 1,000 parts of blood	802 12
" " " " serum	922 90
Solid matter in 1,000 parts of blood	197 88
" " " " " serum	77 10
" " " serum of 1,000 parts of blood	67 03
Saline matters in 1,000 parts of blood	8 48
" " " blood corpuscles of 1,000 parts of blood	1 78
" " " 1,000 parts of serum	7 71
" " " serum of 1,000 parts of blood	6 69

1,000 parts of blood contained

Water					802 12
Solid residue, 197.88	Organic matters, 189 40	Dried blood corpuscles, 130 57	Organic matters		125 79
			Saline matters		1 78
	Fixed saline constituents 8 18	Solid matters in serum 67 03	Albumen 53 10	Organic matters	51 59
				Saline matters	1 81
			Extractive matters 13 72	Urea bile fat and carbonate of ammonia, etc	8.81
				Inorganic matt'rs	4.88
	Fibrin				0 271

1,000 parts of blood contains

Moist blood corpuscles, 322 28	Water of moist blood corpuscles		302 71
	Organic matter		125 79
	Saline matter		1 78
Liquor sanguini 477 72	Albumen 53 40	Organic matters	51 59
		Saline matters	1.81
	Extractive matters 13 72	Urea, bile fat and carbonate of ammonia	8 84
		Inorganic matters	4.88
	Fibrin		0 271

Urea and bile acids were detected after death in considerable amounts in the brain, liver, heart and spleen of this patient, the black vomit also, ejected during life and remaining in the stomach after death contained urea

John Alter, yellow fever Patient attacked with symptoms of yellow fever, September 29, died Oct 4, 1871 Analysis of blood, black vomit and bile Urea detected in the blood during life, and also after death Urea detected in large quantities in the brain, in the fibers of the heart, and in the liver and spleen Fat, in the form of globules, deposited in large amount in the liver, kidneys and in the muscular structures of the heart. Tubuli uriniferi filled with granular fibroid matter, oil globules, and epithelial cells Blood and brain and all the organs contained bile Stomach congested , mucous membrane softened, epithelial cells filled with granular matter

Case 1—John Alter, age 21, native of Switzerland, has resided in Louisiana during the past four years, and has lived alternately on the shores of Lake Pontchartrain, and in New Orleans, the greater portion of his time being spent at the Lake Entered the Charity Hospital Oct 3, 1871, 10 o'clock A M Patient lethargic and dull as if suffering under the effects of some narcotic poison, in response to careful and persistent inquiries, however, he gave with difficulty the following facts relating to his disease "Took passage on steamboat to Vicksburg ten days ago for the purpose of obtaining employment, failing to effect his object, at the end of two days, started back on a steamboat, and four days ago, while on the return trip, began feeling unwell" Patient complains of pain over region of the stomach, in the small of the back and in the lower extremities Has a sleepy heavy look, complexion yellow and dusky, conjunctiva of eyes, mucous membrane of lips and gums, and the skin generally, greatly congested, tongue furred in the center and on the borders, bowels constipated Beef tea, small quantities of alcoholic stimulants and absolute rest were ordered Patient appeared to be quiet during the day, but was very restless during the night October 4, 9 A M, patient delirious, restless, ejecting black vomit from the mouth, with little apparent effort Complexion bright yellow, whites of eyes yellow, skin greatly congested, and in the extremities mottled, eyes congested, black vomit and black blood from the gums trickling down the corners of the mouth Body emits a most disagreeable odor, resembling that emitted in some of the worst cases of typhus fever, smallpox and typhoid fever Pulse full and slow, skin only moderately warm, dry and harsh to the feeling When pressed with the finger, the blood is driven out of the capillaries, but slowly returns into the discolored spot Complete suppression of the urinary secretion during the past twenty-four hours

I determined to bleed this patient, and to make a careful *microscopic examination and chemic analysis of the blood* When the arm was tied up preliminary to the use of the lancet, the patient cried out and gave forth delirious screams mingled with incoherent sentences and curses, and at the same time struggled violently After the vein was opened it required all the strength that I could command, with one hand, to extend the right arm and keep it in the proper position for the collection of the blood in suitable vessels

(*To be continued*)

THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH, WITH THE BACTERIOLOGY OF THE STOMACH CONTENTS

BY FENTON B TURCK, M D

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(*Continued from page 347*)

The following is a tabulated group of cases of various pathologic conditions of the stomach, studied as to the class of microorganisms associated with each case

Patient	Age	Referred by	Principal Symptoms	Diagnosis	Free HCl	Lactic Acid	Total acidity	Principal germs found	Remarks
B F D	2[illegible]	Dr Newman	Vomiting gas, pain	Stenosis, dilatation	1 hr after meal	Ether ext Uffelmann's	60	Sarcinæ in great quantity	Sarcinæ found in fasting stomach forming a great mass
Mrs McC	4[illegible]	Dr Newman	Diffuse pain great distress after eating depression	Gastritis beginning atrophy	—	Ether ext	10	Micrococci short and long rods	Great number of wedge shaped colonies of micrococci
Mrs J B	47	Dr Bacon	Prickly sensation in stomach headache anorexia	Gastritis beginning atrophy	—	Ether ext	[illegible]	Small rods like bacilli coli com yeast lactic acid germs	Could not exclude carcinoma at first after two years patient showed no signs [illegible] HCl [illegible]
Annie S	1[illegible]	Dr Martin	Pain in epigastrium dizziness headache	Chronic parenchymatous nephritis	—	No lactic acid by Boas method	1[illegible]	Nothing [illegible] no cultures made	[illegible] gastric symptoms [illegible] all disturbances [illegible]
Dr		Dr Martin	Distress 1 hour after eating depression loss in weight	Tuberculosis pul (?)	—	Ether ext faint	[illegible]	Large number of tubercle bacilli	The tubercle bacilli appeared [illegible] contents of [illegible] drawn off
Wm B	[illegible]	Dr Hall	Paroxysms of gastralgia radiating [illegible] nervous [illegible]	Neurosis	[illegible]	—	[illegible]	Mixed variety few micro-organisms no cultures	[illegible]
M P	43	The General Medical Clinic	Uneasiness in region of stomach anorexia loss in weight night sweats	Carcinoma of the pylorus	[illegible]	Extract with ether with Uffelmann's reagent	[illegible]	[illegible] bacilli [illegible] curved bacilli	[illegible] dead
Mrs D H	35	Clinic	Rapid loss in weight gastralgia	Withheld for further examination		Boas method [illegible]	[illegible]	Few lactic acid [illegible] only appeared in milk and starch culture	[illegible]
Chas W C	39	Clinic	Vomiting as soon as he took food, loss in weight	Chronic interstitial gastritis	—	—	Very weak peptone	Staphylococcus and [illegible] short rods like bacilli coli communi	[illegible]
Mrs C S	57	Dr Sanger Brown	Bloating dyspnœa especially at night headache	Gastroenteroptosis		—	13	Black and red yeast colonies gas forming	[illegible] disappeared after disinfection
A. L. B	34	Dr Kirkpatrick	Distress shortly after eating rapid emaciation pale approaching cachexia	Carcinoma ventriculi	—	Boas' method [illegible] by Dr [illegible]		Lactic acid bacilli threads short rods micrococci	Diagnosis confirmed laparotomy advised
Mrs M W	61	Dr Ayers	Pain in epigastric region radiating to the right side	Gastroenteritis chronic with atrophy	—	Boas' method [illegible]	[illegible]	A number of colonies of bacilli like the coli communi	The cultures [illegible]
Mrs B R	32	Dr Brower	Late gastric symptoms of tuber pul	Tuberculosis pul	—	Uffelmann's (negative)	[illegible]	Tubercle bacilli in great numbers in stomach contents	Could not determine [illegible] only what [illegible] swallowed
Mrs L	54	Dr Babcock	Cardialgia belching pyrosis headache insomnia	Gastroptosis gastritis gland chron	—	Uffelmann's —	60	Several forms yeast gas forming rods [illegible] shape colonies of micrococci lactic acid only in one milk culture	Great number of leucocytes
Mrs H S	28	Dr Newman	Burning sensation in stomach gas emaciation stagnation of food	Gastritis gland chron stenosis dilatation gastroptosis	+	—	60	Sarcinæ ventriculi many other forms but masked by the sarcinæ	Hyper of pylorus operation, pyloroplasty advised
F S	21	Dr Gehrman	Dull heavy feeling after eating remnants of food 20 hrs after eating	Stenosis ( ) (no marked extension) hypersecretion	+	—	80	Cladothrix Alge (rivularia nostoc communi) culture in water	Stomach contents were a rich dark green, after filtering and introducing the alge into the gastric juice developed rapidly
Flora S	21	Dr Newman	Headache gas gastralgia, emaciation	Dilatation	+	—	60	Same as above yeast	Light green contents found at night after washing [illegible] in morning nothing eaten during day
J S McC	27	Dr Sanger Brown	Constant pain in epigastrium emaciat'n	Dilatation hypersecretion	+	—	70	Alge gelatinous fronds in unicellular masses threads and spirilla yeast	First exam dark green after two treatments light green contents from empty stomach
G K	23	Dr Melms	Constant pain in epigastric region	Dilatation, constant flow	+	—	112	Similar to above develop in water a drop dil ammonia, will not develop when HCl is added to water	Green fluid removal by use of liquid soap and gyromele lavage retards but green color returns in a day or two

The work here presented, represents cultivations made over a period of two and a half years

There seems to be a law in the growth of germs in the stomach as in artificial cultivation, viz, those colonies will take precedence and predominate when the culture media and other conditions are most favorable for the development of these special classes and varieties Sarcinæ grows best in a dilated stomach with benign stenosis, even where an excess of HCl is formed, whereas outside the stomach the sarcinæ grows better in an alkalin medium The fact of the HCl being in excess can not be considered as a reason, but the culture medium is so fertile for the growth of sarcinæ that they rapidly develop in vast numbers, even in this acid medium It may be that these and other microorganisms that develop with the sarcinæ may excite and cause hypersecretion and the excess of HCl In the dilated stomach, without stenosis, are often found algæ, cladothrix, and various saprophytes which grow with great rapidity, while other microorganisms take second place Many forms of yeast thrive well in these cases of simple dilatation many of which are gas forming and differ from sarcinæ ventriculi In carcinoma, the lactic acid forming bacteria seem to thrive best, and though found in other conditions, yet as sarcinæ thrive best in benign stenosis, the lactic acid microorganisms like better a malignant stenosis

It is impossible at present to consider infection of the stomach as due to any specific microorganisms Gastritis glandularis chronica is an inflammatory process excited by various etiologic factors and the process is kept up so long as conditions permit certain groups of microorganisms to colonize When stenosis occurs, one class seem to predominate, viz , sarcinæ ventriculi, of which there are five varieties Sarcinæ are found in other diseases besides benign stenosis, but in this class they seem to have the best possible conditions for rapid development In some cases it seemed as if the entire contents, measuring from 100 to 500 cc , were made up of these packet-shaped microorganisms

In carcinoma, especially of the pylorus, the lactic acid forming bacilli take precedence The other varieties are present, in fact an inflammatory process is set up, in all appearances of an infectious nature, but when the experiments and bacteriologic evidence present so constantly the presence of the lactic acid microorganisms in a greater number of colonies than are found in the other diseases of the stomach, it presents startling evidence of considerable diagnostic value, as markedly at least as sarcinæ found in benign stenosis

I have observed five varieties Small rods, rounded ends, long threads, unequal lengths a short slightly curved bacterium, micrococci, and a macrococcus There are a great number that can produce lactic acid when the media is suitable There is *one* class of infection in the stomach which seems to markedly alter the glandular tissue by direct irritation as a chronic inflammatory process Another class in which the stomach acts as an incubator, producing no great disturbance to the gastric wall, but the absorption of the products formed produce profound general poisoning Both of these conditions may be present at the same time, or one may overshadow the other

In experimenting with lactic acid cultures in the stomach of animals the results are not very brilliant In the dog it is very difficult to grow them—whereas the sarcinæ and the red and black yeast will grow in the stomach if a certain condition is produced

EXPERIMENTS ON DOGS

Experiment 1 Introducing three tube cultures of sarcinæ into a healthy dog's stomach No sarcinæ could be found after the lapse of forty-eight hours

Experiment 2 Tying oft the pylorus enough to produce marked stenosis, but *not complete*

Introducing three cultures 1, sarcinæ, 2, red yeast, 3, black yeast

Result The microorganisms were found within forty-eight hours, but by no means proliferating

Experiment 3 Introduced tannic acid into a dog's stomach, applying to the entire wall with the gyromele daily for one week As this is the first step in the experiment to produce artificial gastritis, I introduced the contents from the stomach of patients suffering from chronic gastritis, As soon as the animal showed signs of loss of appetite, refused to eat meat, and grew thin, the pylorus was tied off as in the other experiments Here sarcinæ developed rapidly

Experiment 4 The contents drawn off when introduced into a sterilized milk and put at 37 degrees C for forty-eight hours showed lactic acid by Uffelman's reagent + Did not secure any pure cultures of lactic acid bacilli

Experiment 5 Introduced algæ from cultures made in the filtered contents of stomach of patients in which algæ was found The algæ died out

At present it is impossible to consider algæ pathognomonic The algæ is found in a great many cases of dilated stomachs with HCl+ and hypersecretion The Germans frequently note a green color of the stomach contents, some alluding to it as bile, but it may be that by more careful microscopic examination of the green colored contents, algæ will be found present, and by careful observation a large number of these cases can be found and classified

In this work I can only call attention to the presence of algæ in certain dilated stomachs, for the purpose of comparison and grouping the class of microorganisms found in each particular disease In another work devoted to this subject, I shall give the results of cultivation and classification,

Algæ require quietness and rest to develop well When cultures are made in small bottles, carried in the pocket, the movements of the body prevent the development, whereas the same culture in a resting condition (as on a shelf), develops rapidly

The dilated stomach in which the organisms are found shows a great lack of "muscle tone," and may act like a swinging hammock, so that comparatively little disturbance is caused in the body movements Stagnation exists This same condition exists in the growth of the microscopic algæ in nature A running brook is not in as good condition for the growth, as a pool In cleansing the stomach thoroughly until the water ran clear, and allowing the patients to fast for twenty hours, the green color appeared again in the secretion, which was found, on microscopic examination, to be due to the algæ This was demonstrated in six cases

To formulate a satisfactory classification of microorganisms found associated in each class of pathologic conditions of the stomach, is a most difficult undertaking There are over thirty varieties of pathologic and non-pathologic microorganisms that can develop in the human stomach Many are found in health and are also found shortly after birth

(*To be continued*)

The forty-sixth annual session of the American Medical Association will be held in Baltimore, Md , on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

SOCIETY PROCEEDINGS

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill, Nov 9 and 10, 1894

(Continued from page [illegible])

SHOULD A RAILWAY SURGEON BE REQUIRED TO PROCURE A HISTORY AS TO THE CAUSE OF AN ACCIDENT OVER THE SIGNATURE OF THE INJURED?—REASONS OPPOSING SUCH REPORT

BY DR GEO CHAFFEE

SURGEON LONG ISLAND R R, BROOKLYN N Y

It is understood that papers presented before this body are not written to advertise either the writer or this institution

There are in railway surgery as we find throughout the broad domain of medicine and surgery many disputed points many unsettled questions

That stalwart fellow—the engineer—who for hours at a time stands at his post on the engine while the vestibule flyer is being hauled across great stretches of our country knows very well the character of the track before him, the nature of the different grades and curves So too the captain of an "ocean greyhound" must know well the course over which his vessel must pass, to insure his passengers comfort and safety

The railway surgeon, in turn, should not only have a fair knowledge of medicine and surgery but he should as well know something of medico legal questions for the course over which his bark may drift is often quite rocky

One object of this institution is to seek for Truth another, is to see that Justice be allowed to sit supreme on her throne If this institution should ever adopt a motto let "Railway Surgery Truth and Justice" compose not only the framework, but the entire front, from the ground floor up Let us, then, ever be found ready to aid in working out difficult problems, in sifting the good works of others, in selecting truths and valuable facts for the advancement of railway surgery I have said that in this line of surgery we have disputed points Reference to our program will show that the topic under discussion is one of them or this paper would not have been written

Now I assure you that the grounds I shall take, and the effort I shall make in the discussion of this question are not for the purpose of outdoing my opponent in any respect It is simply with a desire that we may after sifting secure enough grain to establish a standard by which all may be guided in the future I shall first follow a line of reasoning, or rather of inquiry, looking in the direction of the injured person

THE INJURED PERSON

Railway surgery compels us to give our first aid to the injured So we will first consider the injured man Now is it policy for corporation and surgeon to combine and place their work on paper and on the records of the court against an injured person? I think not

So far I have found little trouble in securing the full confidence of the majority of my patients and, in the course of a few days, when they are able to talk, usually succeed in drawing from them a full and satisfactory history of their case, and this too, in a legitimate way

In case of slight injury where the surgeon may detect a disposition on the part of the injured person to magnify his trouble and bring suit, is it not possible for him while taking the history of the case, to include in a general way, a statement from the patient as to the *cause* of the injury—to get the *truth*, which should be all he will require for the treatment of the case, for a clinical record, and for use as a witness? I think so

One truth sworn to by either surgeon or patient, and corroborated by the other, is worth more than a thousand affidavits secured under pressure Suppose the injured party testifies that he has refused to give his signature, and that he resented the kind offer of the surgeon? What effect will such testimony have with the jury? Granting, then, that a signature has been procured by the surgeon, what effect will it have on the injured person? Will he not think that his surgeon is unduly exercised over his case, and will it not arouse *suspicion*, and at once suggest to his mind *litigation*? Will not such a course create a prejudice in his mind against the corporation, and will it not call forth unjust and unnecessary criticism from both friends and the public?

Having signed a paper and coupled with it delay, will he not feel or perhaps imagine that he has entered into bonds, or been drawn into a contract whereby he may have been taken advantage of, that perhaps his injury is even of a more severe character than he has been taught to believe and, as a result—in some cases—may we not get anxiety, worry, and possibly a deranged condition of the mind? May we not aid in developing traumatic neurasthenia or a hystero neurasthenia which will place the case in the hands of the neurologist, and which alone might eventually be the means of his bringing suit for many times the amount of the original injury? I repeat that in some cases I believe it is possible for such a turn of affairs to take place

I am aware that the last question which I have raised carries our investigation into a delicate field Not only does it take up the physiologic element of the topic—the effect of grief anxiety worry and suggestion upon the mind which in itself would furnish material for a paper and which I do not care to discuss further, but it also involves the economic principle of compromise

I will, however offer in support of the opinion which I have advanced in regard to the psychologic and economic element of this question a brief quotation from Dr W L Outten's valuable paper on "Traumatic Neuroses" "Compensation" as viewed by the writer does not possess the incidental elements of worry and harassment that obtain when litigation is indulged in We are free to confess that in our views the influence of compromise is great It relieves the individual of all the attendant worries incident to litigation its influence is in the direction of mild, normal and unruffled action "[1]

Again, granting that the surgeon has himself procured the signature of the injured party suit is brought and the surgeon takes the witness stand with a history of the case over the signature of the plaintiff before him and gives his testimony accordingly Now what effect will this surgeon's testimony have with the jury? I think the effect will be most damaging both to surgeon and corporation

Having, for the time being, disposed of our injured person let us turn whatever power we may have left in our searchlight upon the corporation, and what shall we find? We shall find among the officers of the company a surgeon an attorney, with some a claim agent, and with others, an adjuster

THE DUTIES OF EACH

Now for what purpose are these gentlemen employed?

1 The surgeon is employed to do surgical and medico-legal work

2 The attorney or counsel is employed to do legal work to try cases in court, to give legal advice etc

3 The claim agent or adjuster, is employed to investigate all claims, to ascertain the causes of accidents, to visit witnesses to secure all the information possible from various sources for the use of himself and the attorney, and last, but not least to pay off claims

I have briefly but clearly outlined the duties of surgeon, attorney and claim agent Is it right, then, for a corporation to ask its surgeon to do the work of claim agent? The surgeon is employed remember, to do surgical and medico legal work But I know you will ask, Is not this medico legal work? Not strictly so On the other hand the *procuring* of a *signature* is a strictly *legal* procedure, having no medical status whatever, hence this fact carries the question under discussion outside of surgical and medico legal lines, placing it in the hands of the company's attorney, or claim agent, where it justly belongs The *cause* of an *accident* may be classed as surgical or medico legal, but the procuring of a signature is quite another thing It is purely legal and the work of the legal side

I do not wish to be understood as taking the ground that it is wrong and never necessary for the *company* to secure the signature of an injured person Far from it! In certain cases it may be highly essential That, however, is for counsel to decide, and, having decided, let him do his own work, and let the surgeon keep right on "sawing wood," or rather bones, if necessary When a surgeon lays aside the agents placed in his hands for the practice of surgery he should, for the time being, lay off the title of railway surgeon, for he virtually steps across the line from surgery to law when he assumes the task of procuring the signature of an injured person And although his pathway while doing this work may apparently be strewn with roses of the brightest tint and sweetest perfume, I am certain that he will find upon the witness stand a chair well upholstered with the sharpest of medical legal thorns

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[1] R'y Surg , Vol I, No 7

TREATMENT OF BURNS OF THE CONJUNCTIVA

BY D C BRYANT, M D

OCULIST UNION PACIFIC RAILWAY, OMAHA, NEB

In order to come to any rational conclusions in regard to the treatment of any certain class of injuries, it becomes necessary to inquire into the nature, cause and results to be expected from the kind of wounds under consideration

A brief glance at the causes and the conditions usually found in burns of the conjunctiva, and the consequences following them, will therefore be proper before entering into a consideration of their treatment Before doing that, however, I will say that on account of location, direct continuity of tissue between the cornea and ocular conjunctiva, and the constant apposition of the palpebral conjunctiva with the cornea, these membranes are usually both involved in all burns of any consequence, hence in this paper the cornea will be included in the consideration of burns of this region

Railroad employees, from the diversity of their work, take in nearly all the trades known to mechanics, and consequently are liable to any or all of the accidents common to men engaged in these pursuits and, among other injuries, burns of the conjunctiva and cornea are very common and arise from many different causes

Among the most common agents are molten metals as iron, lead and Babbitt metals, hot metals (not melted) in the shape of scales or chips of iron, chemicals either alkalin or acid, gunpowder in many forms, hot water, steam, hot ashes, hot cinders, in fact anything possessing the requisite amount of heat or caustic properties and coming in contact with the conjunctiva or cornea On account of the quick closing of the lids, when danger approaches the eye, only a small portion of molten metal usually reaches the conjunctiva Be this amount large or small, unless it has become so cooled in transit as to prevent, it is immediately spread out over the anterior surface of the eyeball by the tight gripping of the lids which the sufferer is unable to prevent While this spreading of the hot metal increases its surface, and the extent of the injury, by its allowing quicker cooling of the foreign body, it diminishes the depth to which the destruction of tissue extends Molten metal flying some distance before striking the conjunctiva, may become cooled and hardened sufficiently to retain its shape and yet be possessed of enough heat to produce a burn capable of bringing about the most disastrous results

The burns from scales and chips of hot iron are usually more limited in extent than from liquid metal, but often extend to as great a depth The most common among chemic caustics is lime in some form, usually in the shape of mortar, though I have seen a number of injuries from dry pulverized lime being blown or thrown into the eye, and quite recently have seen a case where one eye was destroyed and the other seriously burned by the lime in a so-called whitewash mixture This accident happened in one of the Union Pacific shops where three of the employees were whitewashing with a steam apparatus used for this purpose One of the pipes burst, throwing the lime into the eyes of all the men around the machine at the time, but destroying only one eye, as above stated The burns received by the other men, though painful, involved only the superficial layer of the cornea and were not serious

Of the acid caustics strong sulphuric, nitric, muriatic and nitro-muriatic acids are the most common A very small drop of either received in the conjunctival sac is capable of producing very serious consequences to both cornea and conjunctiva, before it loses its destructive power from dilution by mixing with the fluids of the conjunctival sac

Powder in all of its forms, from the common black gunpowder to the most powerful nitros, are used in different ways by the men in the employ of the railroads, and accidents of all kinds arise from the careless handling of them Burns from this cause range all the way from the slightest injury of the conjunctiva or cornea to the complete destruction of both these membranes

Whatever the agent in the case may be, the amount of damage done and the results to be expected to follow will depend upon the location, extent of surface over which, and the depth to which the destructive process has extended If the injury implicates the cornea the damage to vision will depend upon the depth and location of the burn, as if it extends deeper than the epithelial layer a scar is sure to be left whatever the treatment may be If the injury be small and situated in the center of the cornea great damage to vision will be done, and if of large size—involving all or nearly all of the surface of the cornea—the vision will not only be lost but the extent of the scar will preclude its restoration afterward by any operation The burns situated in the conjunctiva are not of so much importance, if the destruction be confined to either the ocular or palpebral portion alone, but as this rarely happens where the wound is at all extensive, we usually have to deal with two raw surfaces constantly in apposition The result of the healing process in these cases is the more or less close and extensive union of the lid and eyeball, and in some cases the union is so extensive as to entirely destroy the conjunctival sac

From this hasty review of the cause, effects and final results of these injuries, it becomes apparent that a rational treatment, to meet all conditions, should be divided into three stages, the care of the injury itself, the management of the healing process, and operations for the correction of bad results The first would include the time from the receipt of the injury through the first few days following, until the dead tissue has all separated and sloughed away The second stage would extend from the end of the first period to the point where the healing process has been entirely completed, and the third and last would be after the completion of the second stage when the skill of the surgeon may be called upon to remove or rectify the results of the injury, or of the healing process, or of both

The treatment in the first stage will include the checking or relieving the pain, the removal of the foreign substance, and the cleansing and dressing of the injured parts

Relieving the pain is purposely put before the removal of the cause in these cases, for the reason that it is almost impossible to even examine a patient suffering from these injuries, let alone the removal of foreign material from their eyes, before the pain is relieved With many patients, and in the less severe cases, cocain applied locally will be found a very effective remedy in relieving the pain, so that the further steps of treatment in the first stage can be proceeded with without hindrance, but in severe cases and with the more timid patients a general anesthetic, as chloroform or ether, will be found necessary While under the influence of the anesthetic the injured parts should be carefully examined and everything of a foreign nature removed If the burn be caused by any of the metals, or lime, all small particles should be carefully sought out and removed, and this is sometimes a very slow and tedious process where many small particles are embedded in the substance of the conjunctiva or cornea or both, but this part of the work must be thoroughly done, for the minutest portion of foreign substance left will certainly act as an irritant and increase the amount of inflammation and ulceration to follow After every particle that can be found has been removed, the conjunctival sac should be freely washed out with some aseptic fluid, one of the best of which is sterilized water, either pure or with the addition of boric acid When the cause of the burn is some liquid substance, thorough washing will be sufficient unless the agent be an acid and the patient seen very soon after, or at the time of the injury, when a weak alkali added to the water would no doubt be of some service in neutralizing the acid remaining in the conjunctival sac

In dressing these wounds, after cleansing, the chief principle observed in the dressing of burns in other parts of the body should be observed, that is, the exclusion of air Burns in this locality are very favorably situated for the carrying out of this principle, as the mere closing of the lids does this pretty effectually Although the lids are of service in this respect they are capable of causing much damage in other ways The continual rubbing of the palpebral conjunctiva on the cornea or the ocular conjunctiva, in winking, would seriously interfere with the healing of any broken surface on either To obviate this difficulty, as well as to add further protection from air, a light compress of borated cotton and a gauze bandage should be applied Before applying the bandage a little vaselin, olive or castor oil, should be dropped into the conjunctival sac to act as a lubricant, and also to separate the broken surfaces to a greater or less extent Of these agents, I find the castor oil is the most bland and the least easily absorbed

If the burn is extensive and the cornea involved, atropia should be added to the oil, both for its effect on the cornea and to prevent or subdue the iritis which is pretty sure to follow any severe burn of the cornea The dressing can be removed and the drops repeated every four or five hours as needed, and at such times all pus and sloughs should be wiped away with pledgets of cotton soaked in saturated solution of boric acid For the first forty-eight hours after the receipt of the injury, I have found a small bag of broken ice applied over the bandage, the greater part of the time, to be of the greatest service in limiting both the swelling and the inflammation To control the pain following these burns, a hypodermic injection of morphia or morphia by the mouth should be given No reliance can be put on cocain as recommended by some writers for this purpose The careful cleansing with aseptic lotions, and the complete rest procured for both the lids and the eye itself by the use of the bandage, and the atropia and application of the ice bag, comprise about all that can be done to check the inflammation, limit the ulcerative process so liable to follow or attend the sloughing of the dead portions of cornea or conjunctiva, and hasten the beginning of the second or healing stage

With the beginning of the second stage the treatment changes to a considerable extent, as the objects to be attained here are very different from those in the first stage Here we desire to hasten the healing process, check further destruction of tissue by ulceration and prevent as far as possible the formation of adhesions between the lids and eyeball The use of the bandage should be continued, as well as the oil and the careful cleansing of the granulating surfaces Just how much can be done to prevent the formation of adhesions is something of a problem

My own experience in these cases, and I have seen many of them has taught me to believe that little good is accomplished by any of the methods given in the text books to prevent this dreaded result, except in the cases where the burned surface is not large or is situated near the margin of the lids In these mild cases the breaking up of the adhesions by passing a strabismus hook around them and forcibly separating the adhering surfaces at each dressing has, in several cases that have come under my care been of great benefit, in some cases preventing union entirely and in others making the uniting band so small as to be very easily removed by operative procedures afterward Of late, however, I have adopted a plan that in my hands brings about much quicker and better results than any that I have seen advocated It may have been used by many others before me, but if so I have failed to find any mention of it in print This plan consists in treating the burns in the ocular conjunctiva, (at the end of the first stage) the same as any other wound causing a solution of continuity of that membrane would be treated, that is separating the conjunctiva from the sclera round about the burn to an extent sufficient to allow of the bringing of the edges of the conjunctiva together and uniting them with stitches The unbroken surface presented by the shifted portion of the ocular conjunctiva prevents any union between that and the denuded surface of the palpebral portion of that membrane, which is then left to itself to heal by granulation The loose connection between the conjunctiva and sclera allows of very great displacement of this membrane and one is often astonished at the size of the wounds that can be covered in the way above mentioned Time and trouble are saved to both patient and surgeon and fully as good if not better results obtained than would be by following the old rule of letting the adhesions form and then removing them by plastic operations

In cases where the amount of conjunctival tissue destroyed is so great that the above method can not be used, I have for some time been in the habit of employing skin grafts to cover the denuded surface not, as suggested by text books, at the *end* of the healing stage, but at the *beginning* As soon as the dead tissue is cleared away, the conjunctival sac is thoroughly cleansed with warm boric acid solution and Thiersch's flaps or grafts applied to the raw surface The compress and bandage are then re-applied and left undisturbed for twenty four hours when the dressing is carefully removed and the lids separated sufficiently to allow the escape of whatever fluid may have collected in the conjunctival sac

As every one knows who has tried skin grafting in this region, the chief cause of failure is in the amount of moisture or secretion that collects in the conjunctival sac This is less at the beginning of the second stage than later, when the denuded surface is covered with more luxuriant granulations, hence the propriety of using the grafts as early as possible

If the first set of grafts die wholly, or in part, another attempt should be made with as little delay as possible By freshening the granulating surface, (by scraping) these attempts can be repeated until success crowns the effort, or the healing process shuts out any further opportunity

In many of these cases the grafting will prove successful and the formation of adhesions be prevented, but in those cases where this part of the treatment proves a failure it leaves the conditions no worse for the third stage than they would otherwise have been

The treatment in the third or last stage aims at the correction of the defects produced by the injury or the healing process following These conditions may be such as to call for an enucleation to stop the constant irritation caused by adhesions between lids and eyeball or to prevent sympathetic trouble where the burn has involved the deeper structures of the eye, an amputation of the anterior part of the globe so that a shell can be worn to cover up unsightly scars an iridectomy to improve vision a plastic operation to remove adhesion between eyeball and lids or between the lids themselves, or for an operation to correct an entropion In these cases each individual one is a study in itself and no certain rules can be laid down for their management The skillful operator in here has his ability, and patience tried to the utmost and then after bringing all known resources into use may still come a failure But with patience and perseverance in the performance of whatever operation the particular case in hand may call for the results in many cases are sufficiently good to satisfy both the patient and surgeon

Even if the vision of the injured eye is lost many dollars can be saved the railroad company, and the patient himself be much better satisfied if a fair cosmetic result can be obtained Nothing enlists the sympathy of the jury more and consequently increases the amount of damages awarded, than an unsightly appearance presented by the complainant For the benefit of both the patient and the company that foots the bill, as well as for his own reputation the railway surgeon should treat these cases with patience and perseverance even when no benefit except from a cosmetic point of view can be expected

DISCUSSION

Dr Price—In connection with this paper I desire to report a case which was interesting to me and one which I consider unique The case was that of a miner who was standing directly in front of an exploded dynamite charge and received the full force of the explosion in his face and upper extremities Both hands were burnt off to the wrists, and there were serious burns on the face, head and eyes As a result of the burns of the cornea, there was extensive sloughing of both corneæ and in one of them there was perforation with disorganization and extrusion of the lens and escape of both aqueous and vitreous so that when I dressed his eyes one day, I found the entire anterior segment of the eyeball inverted in a conical or funnel shape To my surprise, after a few days the perforating ulcer healed, the contents of the eyeball filled out again to its normal shape or nearly so, and the man had perception of light with that eye

Dr Harnden—I have received a good deal of comfort from this paper, for the reason that some years ago in a plastic operation of the face for a burn, there was cicatricial contraction and I adopted a measure for which I received a great amount of censure from some of my confreres I stitched the lids of the eye together, and I stitched the upper lip down to the chin, drawing them down by sutures, and to my surprise there was cicatrization I did a plastic operation which healed without the usual contraction, but I made incisions, separated and dissected out the tissues, leaving a pedicle, and the sutures held the lid which had been drawn down to an unsightly condition, and the upper lip having broadened out to the margin of the ala of the nose, great deformity was prevented The man was a banker, and with the exception of a false mustache which he has to wear on that side to match the other side, you would scarcely notice that he had been so seriously burned Compared with the deformity he had, it was a great improvement I was blamed for doing this operation, as it was considered by some an unprofessional act

(*To be continued*)

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Louisville Academy of Medicine

The regular meeting of the Academy was held Monday evening, March 4, Dr W L Rodman in the chair

Dr I N Bloom—I wish to report three cases of interest A gentleman was sent me by an oculist three months ago with request to examine him for suspected syphilis There was an ulceration on one tonsil, which had not progressed for four weeks, and the examination was requested with the hope that I could elicit symptoms which would show the ulcer to be the result of secondary syphilis On stripping the patient nothing was found, and I telephoned that I could find nothing indicative of syphilis The history was *perfect*, he stated that three months had elapsed between the last intercourse and the appearance of the trouble The oculist was satisfied with the examination, and later discharged him I examined again in a week with negative result

This gentleman went to Philadelphia, saw a throat specialist and his diagnosis was chancre of the tonsils On last Friday another oculist was in my office in search of some literature on chancre of the tonsil I told him of the case I had seen in my practice four days before, and at that time a physician's card was on my table, who had called to consult me, but whom I had not seen on account of illness This physician had a *chancre of his tonsil The oculist had not left* my office more than an hour when the first patient returned and detailed the history of the development of the chancre in Philadelphia A general outbreak occurred, there was a macular exanthem and general glandular enlargement, but when I examined him there was, except for slight cervical enlargement, no enlargement of the glands

I was consulted by an actor who had a macular eruption and a chancre of the tonsil He had a maculo papular syphilide In these cases the cause of the trouble was looked for In women the bestial habit is the most common cause

The gentleman who went to Philadelphia is entirely reputable, and the only tracable cause is from smoking a cigar or pipe, or *drinking from an infected glass*

The possible cause in the actor, which, however, is of little scientific value, is given by him as follows In his part in the play he impersonates a tramp, and steals a cigar from another actor and smokes it Now the actor who first smoked the cigar had lost his hair and there were sores on his head Actors are a class of people who are well versed in the common symptoms of these troubles I merely offer this as a possible source of infection The statistics which I looked up for the physician *who came to me in* quest of them, I remember generally without remembering them in detail, but I know chancre of the tonsil is sufficiently rare for me to report these cases which I saw in so short a time

Dr Louis Frank—As to the possibilities of infection I saw one of these cases, that of the physician, and am absolutely sure that his word can be relied upon There is *no* possible way *that* it could be contracted from a prostitute He practices in the country and knows of but one case of syphilis in the surrounding country and he had not seen *that* one for some time The possibility is that the infection occurred from a cigar The chancre had existed for three weeks before coming to the city The glandular enlargement was considerable

Dr Wathen—I would like to ask Dr Bloom if he can positively diagnose a primary from a secondary sore when it is situated on the tonsil

Dr Bloom—I failed utterly in the first case mentioned, the oculist who saw him first tried to establish a past syphilis with secondary development on the tonsil The results show that it was a primary lesion The young man had positively no sore on his body before going to Philadelphia

Dr Frank—I would further state that the doctor whose case has been reported was seen by six and possibly seven physicians, and without asking a single question the diagnosis was made

Dr Bloom—But in the case alluded to there was present the secondary eruption which assisted in the diagnosis

Dr Louis Frank—I wish to report a case which shows the difficulty to be met with in the diagnosis of appendicitis, in the person of a patient at the City Hospital a week ago The patient was admitted two or three days previously in a critical condition, with a temperature of 103 degrees, and the diagnosis was made by the resident staff, of appendicitis When admitted to the medical ward she had a rapid pulse, and a temperature of 103 degrees, distension, and dullness over the right iliac fossa She denied uterine or venereal disease When first seen she was in a condition of shock, her abdomen was distended, due to rupture of something in the abdominal cavity She rallied somewhat under treatment and an operation was done A median incision was made, and the belly was filled with pus, fully two quarts, which was most abundant in the pelvic cavity,—especially in the right iliac fossa, which pointed to a rupture having taken place here The colon was bound down by a mass of adhesions The pain had radiated from the right hip to the umbilicus (This should have been mentioned earlier) She died fourteen hours after the operation At the autopsy the condition was found to be a ruptured tubo-ovarian abscess, at the junction of the tube and uterus Both tubes were filled with pus and the adhesions were not very dense *There was not very much pus in the uterus* Before operation the diagnosis of some pelvic trouble was made out by examination There was present on the posterior vaginal wall a large chancroidal ulcer Cultures made from the pus in the abdominal, pelvic and uterine cavities were found to contain the staphylococcus pyogenes aureus

Dr McDermott—The absence of pain in the case reported recalls a case of appendicitis which occurred in my practice The patient a robust man, was sick three or four days, and the physician, temporarily in attendance, had thought it a case of pyelitis or typhoid fever I found a tumor in the region of the appendix and thought there was appendicitis Dr Roberts was called in consultation The patient had had malaise, chills and a fever of 100 degrees When I saw him his pulse was 110, his features composed, I prescribed tablets of morphia 1 6 grain with 1-150 of atropia, and only one was taken He lay with his limbs flexed, as these cases generally do He died in five days, having had a comfortable night before he died This case staggers me, and I feel more like advocating operative procedures in the future The autopsy showed pus in profusion but no general peritonitis, there was sepsis without pain or rigors In all the other cases I have seen, the pain has been one of the most prominent landmarks, and the tumor has been well marked In this case the appendix had sloughed off and could not be found Operation had been considered each day but the condition did not seem to warrant it, as all indications pointed to a rupture in the bowel

Dr Frank—I would add that in the case in which I performed necropsy, the head of the colon was found displaced higher up than the umbilicus, the appendix up and behind, embedded in adhesions, was between one and two inches long

Dr Wathen—On several occasions I have protested against indiscriminate operations I have been considered, from my reported discussions and from my writings, a conservative surgeon The neglect and delay in operating upon the two reported cases indicates that doctors are sometimes too slow in deciding that an operation should be done In Dr Frank's case, if the patient had been examined when the pelvic symptoms first presented themselves, the pus tubes would have been detected the operation for their removal done, and the woman might have recovered She was not referred to the abdominal surgeon, she went on in ignorance of her condition until too late for relief Dr McDermott's case, to my mind presented subjective and objective symptoms which suggested laparotomy, and had it been done soon after the tumor was noticed it probably would have been successful There is no doubt that too much operating is being done for appendicitis, and there are cases not operated on which should be Studying the cases from the standpoint of the radical who is always ready to operate, and from the conservative, who perhaps waits too long, the happy medium is the correct one The physician who operates on every case, and the one who never operates should be criticised In all cases where there are symptoms indicating appendicitis, a consultation should be had with one who is doing this work When no tumor is detected it is difficult oftentimes to make a diagnosis When a tumor is outlined in the region of the appendix, occurring with a rapid pulse and temperature between 103 and 104, an operation should be done and the appendix or accumulation of pus evacuated, but many cases should be operated on even when there is no tumor

Dr H M Goodman—I have heard many discussions on both sides of this subject, but can not get any clear indications as to the time operative procedures are demanded Dr Wathen, speaking of the operation being indicated when there is a tumor recalls to my mind the case of a young lady—about two years ago,—which occurred soon after a case I ad in which Dr Vance was associated with me, and in which the appendix sloughed off and an abscess formed, here was an opening in his back, abscess discharged, and the man recovered The young lady's history is as ollows It was a sudden attack with pain over the appendicular region, and a fever of 100 to 101 degrees Examination showed that about the region of the appendix there was a line of marked tenderness, the tumor being the size of two fists I strongly advised an operation, but the family protested, medical treatment consisting of salines and sufficient opium to control pain, diet and frequent poultices, was carried out In thirteen days an irritative diarrhea developed, which was due to the pus discharging in the bowel The important point is, When do these cases cease to be medical and when do they become surgical? We may represent the case as cured by operation, but it perhaps would have gotten well without it

Dr. J L Howard—It is my opinion there is not enough operating done in appendicitis Whenever the diagnosis is made the operation should be done I know that if I had an attack of even catarrhal appendicitis I would have the appendix removed, there is no harm done, the operation is simple and almost devoid of danger, but if the surgeon is not called in until the patient is in collapse we do an injury to the good name of surgery by operating then, and run the risk of lowering our statistics

Dr. Wm Bailey—I have said so much on this subject already that I hardly know what to say Each time that I see cases I am in dread that they will die without a surgeon, yet many get well without a surgeon I confess I do not know what to do In the large majority of the cases which we see and in which the diagnosis is made a tumor shows But I do not want to say anything more about when they are surgical and when medical I do not know

Dr J B Bullitt—I am not quite so modest as Dr Bailey, for I do want to say something on the subject under discussion Fowler, in his excellent monograph on this subject, says that in the majority of cases in which a surgeon is *prescribed*, the surgeon labors under a disadvantage by being called too late He should be called early and watch the progress of the case There should be no question as to when the trouble ceases to be medical, it is always surgical There is no such thing as a medical case of appendicitis Oftentimes when the surgeon casts about in his own mind as to when a case should be operated on he is at sea, but each case should be one unto itself The most dangerous are those cases with a falling temperature and a high pulse rate

Dr. W F Boggess—The general practitioner seems to be in the minority here to-night I for one am not a believer in indiscriminate operations upon cases of appendicitis As I sat here this evening, I could recall nine cases of appendicitis occurring in my practice, six cases were not operated on and got well, three cases were operated on and of these three, two died One of the cases was a young man of 20 years There was a tumor present the size of a goose egg He had a septic tongue, temperature of 104 degrees, pulse 140, and I asked Dr Dugan to see him with me It was then late and he made arrangements to operate in the morning The next morning the temperature was 100 degrees pulse 96, the tumor gone, and the pus discharging through the bowel There is too much operating on appendicitis, and I do not agree with the statement made that cases should be operated on as soon as diagnosed And I believe that there were fewer cases long ago, who died from peritonitis and perityphlitis than die now from appendicitis, even though operated upon

Dr Vance—I believe that the physician can not tell, if patients get well, whether they have had appendicitis or not

Dr Schachner—All appendicitis cases are surgical, but it is impossible to lay down any certain rules as to when an operation should be done, and for this reason the surgeon should be constantly in attendance to determine the point when the operation should be done

Dr Frank—The general practitioner has as much right to assume that he has a case of appendicitis as the surgeon The cases operated on are cases of recurring appendicitis, as a rule When pus is present we should operate not wait until it ruptures into the bowel It is criminal to wait till this occurs I believe, however, that appendicitis is surgical

Dr McDermott—I am sorry that I precipitated this discussion by the few remarks I made, but I merely want to say that cases of appendicitis as a rule are found by the doctor long before the surgeon sees them The cases of appendicitis which occur are those which had diffuse peritonitis from the beginning

The paper of the evening was read by Dr Aug Schachner, on "The Murphy Button, an Unsuccessful Case of Cholecystduodenostomy"

SOCIETY NEWS

The Kentucky State Medical Society have issued the following circular —The fortieth annual meeting of the Kentucky State Medical Society will be held in Harrodsburg, beginning Wednesday and continuing Thursday and Friday June 12, 13 and 14, 1895 We desire a large attendance and a full program Harrodsburg, the oldest town in the State will not be outdone by any of her sister towns who have entertained the Society The Committee of Arrangements will do all in their power to make the fortieth annual meeting the most popular and successful one in the history of the Society Reduced railroad and hotel rates will be secured We invite every member to attend, and bring with him an applicant for membership Our location is central and easily reached by rail from all parts of the State Address Dr Steele Bailey, of Stanford, Ky Permanent Secretary, for further information I M Wilks, M D, Chairman Committee of Arrangements

Tri State Medical Society of Iowa, Illinois and Missouri —Preliminary announcement and program The next meeting will be held in St Louis April 2, 3 and 4, 1895

Officers President Dr James Moores Ball St Louis, Senior Vice President, Dr Bayard Holmes, Chicago, Junior Vice President, Dr J A Malone, Jacksonville Ill , Treasurer, Dr Charles S Chase, Waterloo Iowa, Secretary, Dr Frank P Norbury, Jacksonville, Ill

Committee of Arrangements Drs W B Outten George W Cale, H W Loeb, A J Steele J H Gregory, C H Hughes, J H McIntyre and James A Close

The Secretary announces the following papers

Medical Evils, W P Allison Peoria, Ill The Influence of Malaria in Rhinological and Laryngeal Work, J I Ash, Brighton Ill , The Open Air Treatment of Consumption, Robert H Babcock, Chicago, President's Address The Anatomical Renascence, James Moores Ball, St Louis Use of the Lever in Club Foot C W Barrier, St Louis, Treatment of Trachoma and Trachoma Sequelæ Charles H Beard, Chicago , Tuberculosis of Bones, D C Brockman Ottumwa, Iowa, The Uterine Sound and Curette W M Catto, Decatur, Ill , The Treatment of Functional Dyspepsia, J M G Carter, Waukegan Ill , Address Recent Advances in Therapeutics, David Cerna, Galveston Texas, Food Adulteration—Its Cause and Prevention, Charles S Chase, Waterloo Iowa , Report of a Herniotomy, J J Conner, Pana, Ill , Inflammation of the Anal Canal, George J Cook, Indianapolis, Ind , Diagnosis of Intra Abdominal and Pelvic Pathologic Conditions, A H Cordier, Kansas City , What is Scrofula? A C Corr, Carlinville, Ill , Study of a Family of Four Degenerate Children, Richard Dewey Chicago, Injuries to the Pelvic Floor, J B Dorsey, Keokuk Iowa , Pleurisy with Effusion, H C Eschbach, Albia Iowa , Pathology and Treatment of Appendicitis, A H Ferguson, Chicago , Treatment of Stricture of the Rectum, S G Gant, Kansas City , Parasitic Nature of Cancer, Heneage Gibbes, Ann Arbor , Mucocele of the Frontal Sinus, W F Guthrie, Bloomington, Ill , Rabies, H A S Hartley, Keokuk, Iowa , Some Forms of Mastoid Operation, R C Heflebower Cincinnati , Indications for Laparotomy, W O Henry Omaha, Neb , Some Thoughts on Elimination, T I Holland, Hot Springs, Ark , Osteal Tuberculosis Without Arthritis Bayard Holmes Chicago , The Economics and Ethics of Reproduction, W Hutchinson, Des Moines, Iowa , Nocturnal Pollutions and Spermatorrhea, Henry Jacobson, St Louis , When Shall We Amputate? Webb J Kelly Galion, Ohio , Professor W W Keen, of Philadelphia, will hold a surgical clinic, Brain Tumor and its Surgical Treatment Emory Lanphear, St Louis , Ununited Fractures and Bone Lesions, E R Lewis, Kansas City , To Spray or Not to Spray, H W Loeb, St Louis , Excision of the Rectum vs Colotomy, J M Mathews, Louisville , Excision of the Elbow Joint in Children, Samuel E Milliken, New York Address on Medi cine, The Relation of Infection to the Nervous System, H N Moyer, Chicago, Electrotherapy of Sexual Neurasthenia, F P Norbury, Jacksonville, Ill, Professor Charles A Oliver, of Philadelphia, will hold an ophthalmic clinic, Hysteria and Organic Disease of the Nervous System, Hugh T Patrick, Chicago, Gastric Neuroses, Their Diagnosis and Treatment, H E Pearse, Kansas City, Puerperal Eclampsia, A D Price, Harrodsburg, Ky, The Stigmata of Nervous Diseases and Their Utility in Diagnosis, John Punton, Kansas City, (a) Epilepsy—Removal of Cerebral Cyst, (b) Typhoid Ulcer, Perforation, Operation, Merrill R. Ricketts, Cincinnati, Address on Gynecology, Observations in the Peritoneum in Fifty Autopsies, F Byron Robinson, Chicago Ophthalmia Neonatorum, E Orrin Sisson, Keokuk, Iowa, A Clinical Report on Thyroid Extract, Edwin Walker, Evansville, Ind, Narcophilia, W F Waugh, Chicago, Treatment of Chronic Suppurative Middle Ear Disease, M F Weymann, St Joseph, Tumors of the Eyeball, with Specimens, Wm H Wilder, Chicago, The Hysterical Element in Joint Diseases, Wm E Wirt, Cleveland, Ohio, Address on Surgery, John A Wyeth, New York

The sessions will be held in the Planters' Hotel Reduced rates will be given on all railroads Gentlemen should secure certificates from the local agent An elegant banquet will be tendered the visiting doctors by the medical men of St Louis Remember the date, April 2, 3 and 4, 1895 Come early and stay late

SELECTIONS

Treatment of Favus With Heat—Culture experiments have shown that a temperature of 45 to 50 degrees destroyed favus fungus This fact has been applied in the treatment of four cases of favus A compress of sublimate of gauze (1-4000) was placed on the head and over this double current coils of tin tubing, through which water at about 50 degrees was continuously passed In three cases recovery resulted in eight to fourteen days—*Archiv für Dermatologie u Syphilis in Centralblatt für innere Medecin*

Laceration of the Liver—The *Province Med*, 1894, No 46, recounts the fall of a bricklayer from a staging 2 m high and his striking, in the region of the liver, against the rim of a mortar bucket After comparative recovery from the first shock, he died on the following day, after an attempt to leave the bed to go to stool On the post-mortem an enormous laceration was found, 17 cm long and 7 cm deep, which had almost severed the lower portion of the right lobe—*Centralblatt für Chirurgie*

Operative Removal of a Tumor from the Neck of a New-born Infant—An infant was brought in with severe dyspnea and cyanosis, the cause of which proved to be a large tumor which was situated on the anterior surface of the neck and which as a vast struma interfered with the air passages The swelling, which was larger than a hen's egg, appeared hard and firm, rough and nodular, and extended from the chin even under the sternum It was covered with integument (which was movable) fascia, and the superficial muscles of the neck, and embraced the hyoid, larynx and trachea on the anterior surface On account of the poor prognosis that would attend a simple tracheotomy in so young a child, and because this operation could hardly be accomplished alone from the extent of the tumor, the whole mass was removed without anesthesia, yet not without considerable hemorrhage A part of the thyroid was left After the operation the respiration was at once free and the child cried aloud The course of the wound was favorable On section the tumor was shown to be solid with many small pin-head to pea-sized cysts Under the microscope there were found in the midst of a connective tissue, vascular and rich in nuclei, solid and hollow epithelial plugs and cysts lined with cylindrical epithelium The presence of undoubted cartilage was striking The tumor was regarded as congenital struma Virchow in the discussion pronounced the tumor a teratoma—*Centralblatt für Gynäkologie*

Therapeutics of Actinomycosis of the Skin—A Staub, in the *Therapeut Monatshefte*, October, 1893, reports the recovery of two cases of actinomycosis in which an operation was impossible His experience with chrysarobin-resorcin, and chrysarobin resorcin-ichthyol plasters, (with which salicylic acid was mixed), and with iodid of potash showed that actinomycotic infiltrations could be favorably influenced by anti-bacterial means Extensive infiltrations gradually disappeared Recent and long-standing areas showed a difference in the effect of local means, the former reacting slowly, the latter with remarkable rapidity The thickening disappeared, and the skin became pale and healthy For the deeper parts of the skin, scarification must precede antiseptic measures, and the same is true for recent infiltrations—*Centralblatt für innere Medecin*

New Method of Staining Micro-organisms in the Blood—When there are few microörganisms and especially such as do not take a distinctive color by the Gram method, there is danger of concealment in masses of red blood corpuscles The coloring matter attacks the hemoglobin, if this is removed then the blood corpuscles remain unstained Let a thin layer of blood on a cover glass dry at ordinary temperature or only slightly elevated, treat for one-half to two minutes with the following

5 per cent aqueous solution of carbolic acid	6
Saturated solution Na Cl	30
Glycerin	30
Filter	

This fluid frees the hemoglobin, does not change the form of the red corpuscles and makes no deposit Pour off, wash in distilled water and stain with carbol methyl blue to which 1 to 2 per cent of aqueous solution of methyl violet is added This method is also useful in demonstrating plasmodium malariæ—*Gazette Med de Paris*

The Regulation of the Diet in Chronic Affections of the Heart—(Glax in *Internationale Klin Rundschau*) As far back as 1880 he had alluded to the favorable effect from strict limitation in ingestion of fluids in the treatment of chronic heart disease Four years later, Oertel's book on the therapy of disturbances of the circulation appeared, in which, as well, deprivation of fluids was maintained In two very instructive works on clinical medicine, Glax has summed up his experiences of many years in these two statements The restriction of the ingestion of fluids is one of the most powerful measures in the treatment of chronic heart diseases, and alone is often sufficient to bring about compensation In many cases, in which the strength of the heart is already compromised, its efficiency is renewed, as soon as the ingested fluids are regulated to correspond with the excretions—*Centralblatt fur innere Medecin*

Actinomycosis in the German Army—Düms in the *Deutsche militärärztl Zeitschrift* states that only seven cases have been reported up to 1890, six in 1884–88 and one in 1888–89 Four of these were of undoubted oral origin, two appeared as inflammation of the lower jaw, and two as parotitis All these patients became disabled for service In the three other cases an entrance was effected in other ways, one apparently through the skin in the axilla, one by the lungs (mixed infection with tubercle), one by the abdominal cavity, breaking through into the right lung

The writer adds three hitherto unpublished cases, one of the lungs resulting in death, two of the jaw, both recovered and remaining well until now, a lapse of three years It is to be specially noted that in the last two cases the microscopic investigations were made by Karg, and that, in both, he found a variety different from the usual cladothrix form of Bostrom, and resembling the form described by Hesse in the *Deutsche Zeitschrift für Chirurgie*, 1890 The threads were thicker and longer, the usual culture procedures were unsuccessful Finally he succeeded in growing a whitish gray colony of clouded cladothrix threads on a blood serum agar plate, which had been kept in an atmosphere of hydrogen at broad temperature It was therefore a cladothrix form, difficult to cultivate out of a living body, and anærobic The successful treatment consisted in curetting the abscess, and irrigating with sublimate and boro salicylic solutions The relative rarity in the army is decidedly striking—*Centralblatt fur Chirurgie*

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES 10 CENTS

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. [illegible] FIFTH AVENUE, CHICAGO, ILLINOIS.
W. H. LOWDERMILK & CO., WASHINGTON AGENT.

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SATURDAY, MARCH 16, 1895.

LEGIBLE HAND WRITING.

> "A damned cramp piece of penmanship as ever I saw in my life. I can read your print hand very well. But here there are such handles, shanks and dashes that one can scarce tell the head from the tail. It's very odd I can read the outside of my letters where my own name is well enough. But when I come to open it, it's all—buzz. That's hard, very hard, for the inside of the letter is always the cream of the correspondence."—*She Stoops to Conquer.*

We sincerely hope that none of our readers will regard this particular quotation as personal, but we are warned by experience that it is extremely easy to give offense where none was intended, and therefore we premise that the reflections are directed solely to those who write for the scientific press generally and for the dispensing pharmacist as a daily occupation. We sometimes imagine, as we have now and then caught a glimpse of a manuscript (in the office of some other medical journal) that we were fast returning to the customs anterior to the days of CADMUS and EUROPA, when men wrote their epistles in hieroglyphics, with thick ink.

Ideographism represents a picture of the object the idea of which is to be conveyed, or a symbol which by consent represents the object. This differs from Phonetism which seeks by arbitrary letters to represent the sounds of a spoken language, and which in conveyance of the idea leaves less to the imagination.

It is therefore somewhat in the nature of an appeal (in behalf of the management of other journals) that the ideograph be relegated to the Egyptologists along with the bones of the antediluvians who used pictures instead of writing when they wished to convey either instruction, sentiment or emotion to their fellow men. When we attempt to read an article written in hieroglyphics we are much embarrassed, for we think of many things a given hieroglyph may represent, and if the author is a plain matter of fact scientist, he may become angry when he is represented in clear but modern type as saying something quite different from what he would have said, had he used the more common characters of the alphabet. A lively imagination then in the translation of hieroglyphs, is to be held severely in check, if either the peace of mind of the translator or the choler of the author are considered.

When the unimaginative drug clerk attempts the compounding of a prescription written in hieroglyph, there is little trouble, for as he is a man of one idea he fills the prescription on that basis, but as there is many a "mute inglorious Milton" engaged in ordinary pursuits, so the prescription written in hieroglyph may find to his sorrow when the medicine is delivered that he has to administer a witches' broth as hot as the good DOMINIE SAMPSON was forced to swallow from the ladle of MEG MERRILIES, or a poison as potent as those used in the days of the DI MEDICI.

Even more unfortunate are those extremely busy men who, although using the characters of the common alphabet when writing an article, forget to add a part of the letter or the last part or syllable of the word, for the hieroglyph did mean something if one only knew what it was, whereas the blank represents only vacancy—mere space—which may be filled by anything.

It is not necessary in conveyance of ideas by writing, that one be artistic, although to their credit be it said that there are many physicians whose handwriting is beautiful in its clearness, graceful curves and delicate tracery, but careful and close adherence to the accepted forms of the letters will, in the long run, be the surest way to prevent misunderstanding and accidents, and if by nature one can not acquire the necessary handicraft, he should use the typewriting machine or employ some one to use it in the translation of his manuscript.

We were moved to this excursus apart from the field of medicine, by the reception of an extremely ill-natured anonymous communication reflecting upon the manner of a foot note appended to the letter of a valued correspondent. In that foot note we pointed a moral really addressed to the whole medical division of the great Republic of Letters.

THE FIFTY-THIRD CONGRESS, THE ARMY AND NAVY MEDICAL SERVICES AND THE MARINE HOSPITAL SERVICE.

The Medical Department of the Army is in an efficient condition. Its officers have the rank, pay and emoluments of other officers of like grade. They exercise command in their hospitals and over Hospital Corps detachments, and have control of their medical and hospital supplies. The Department asked for nothing from the Fifty-third Congress but to have money appropriated for its current expenses. Its estimates, however, were pared down considerably in both years Instead of $185,000 estimated for the year ending June 30, 1895, and $175,000 for the following year, the appropriation bills carried only $160,000 in both instances The estimate of $10,000 for the Library was cut to $8,000, but the appropriations for the publication of the Index Catalogue and for the Army Medical Museum were approved without reduction

In the first session a bill was introduced which would have seriously crippled the Corps by reducing its number in those grades which are the rewards for long and faithful service, but as passed and approved, the bill merely prevented the appointment of young men to fill vacancies until the number of assistant surgeons became reduced from 125 to 110 This reduction was felt the less on account of the abandonment shortly afterward of nine or ten military posts, but notwithstanding this it is not unlikely that certain Army Medical officers failed to get a leave of absence this year for want of some one to take their place, and that some detachments may have to go into the field during the coming summer without competent medical attendance The number of assistant surgeons at present on the roll is 115, so that 6 vacancies will have to occur before any new appointment can be made

The amount, $60,000, estimated for the annual needs of the Medical Department of the Navy, was duly appropriated, but outside of this our naval confrerés have to be thankful to Congress less for what it did than for what it did not do A bill to reorganize and increase the efficiency of the personnel of the Navy and Marine Corps was reported from the Committee on Naval Affairs with a recommendation for its adoption, but it did not get beyond this stage of its existence This bill was intended to overcome a stasis in promotion from which the Navy has suffered more or less since the war, and to place in positions of responsibility and command, officers of the line who would otherwise have to pass the best years of their active service as subordinates To accomplish this it was proposed to sacrifice the interests not only of the Medical and other staff corps, but even of many line officers, particularly those who saw service during the war and who now stand between the younger men and the coveted rank and position To judge from the language of the Naval Committee's report the bill ought to have been favored by every medical officer in the service "Comparing the present status of the Naval Medical Corps with that proposed by the bill it will be seen that the titles have been changed substantially as asked for, that positive rank has been given, and that a considerable number of officers have been given an advance in rank" Yet singularly enough the friends of the Medical Department were unanimous in their opposition to its passage, and in sympathy with their wishes this Journal fought the bill to the best of its ability The bill, however, is dead for the time being, so that it is unnecessary to dwell further on the injustice of many of its provisions

The status of our Naval Medical Department, compared with that of the British service or with that of our own Army, is such as to cause depression of spirit in those who belong to it When they entered in their youth they were encouraged to face existing conditions by the hope that the evolutionary processes of the age would speedily effect a satisfactory reorganization of the Corps Such a reorganization is what the Department needs to give energy to its present membership and enable it to fill its vacancies with the highest grade of medical graduates While the competition for place in the Army is considerable, the Navy has not been able for many years to fill its vacancies, nor will it be able to do this until a bill has been passed removing the objectionable features of its medical service Few graduates of medicine competent to pass the Examining Boards would elect to enter the Navy with the rank of ensign or second lieutenant and a bunk in the steerage for three years, when they can enter the Army as a first lieutenant and have selection of quarters over all officers junior to them in rank Again, the rank of each naval medical officer should be determined by his position in his own corps and not be dependent as now, on that of his co-mate in the line The framers of the existing law appear to have considered that it would be disastrous to naval efficiency for any staff officer to be promoted to a higher grade until after the promotion of all those of the line having the same date of prior commission In fact, by the present law, the line officer may be represented as saying to his medical shipmate "If I can't be promoted, you sha'nt!" Medical officers of fifteen years' service are thus tied down to the rank of junior lieutenants, a grade through which the Army Medical officer passes in five years Longevity pay, a 10 per cent increase, granted to passed assistant engineers at the end of every five years, should be given also to the corresponding grade of the Medical Corps, and provision should be made for voluntary retirement at the end of thirty years of service

It will be seen from what we have said, that the Naval Medical Corps requires much to give it a standing similar to that of other military medical services Its friends should claim this for it It is well for them to protect the Corps, as they have been doing lately, from harmful legislation, but they should not rest content with this A bill to reorganize the Corps when brought before the Fifty-fourth Congress, should be supported by the influence of the whole of the medical profession

The Marine-Hospital Service has fared well, although the appropriations are much less than the estimates. The general expenses of the Service are met by permanent annual appropriations of so much of the tax on tonnage as may be necessary, and in consequence no specific appropriation is asked for this purpose.

The total appropriations for repairs and alterations of the hospitals amount to $27,700, and for repairs and alterations to quarantine stations, $15,000, and for the maintenance of the Quarantine Service, $125,000. This amount will give an ample appropriation for the efficient conduct of the Quarantine Service.

BACTERIA IN WATER

The Third Report to the English Royal Society Water Research Committee, by Professors Percy F. Frankland and H. Marshall Ward, has just been received. In Part I the latter scientist reports a number of experiments on the influence of light in retarding the development of B. anthracis. The light used was the direct solar rays, reflected light and light filtered through various media, the results showing that it is the actinic end of the spectrum which is efficient. Similar experiments manifested a well marked inhibition of growth of the bacteria of Thames water and particularly of certain of the liquefying forms in the water. To the influence of sunlight is attributed an enfeeblement of the vitality of the bacteria in the summer water. In some cases it is certain that forms obtained in August, and which afterwards turned out to be identical with forms found in the winter, at first grew so feebly that their characters on the plates led one to put them down as distinct species or varieties.

Part II of the Report is a study of the behavior of the typhoid bacillus and the B. coli communis in potable waters, by Professor Frankland. As bearing on the longevity of these microphites, which has been stated by different observers at from five to one hundred and eighty-eight days, the experiments reported have considerable practical value. The results obtained by Kraus in his study of Munich waters artificially infected with the bacillus of typhoid, suggested the destruction of this bacillus at the end of a few days, coincident with the extensive multiplication of the ordinary water bacteria. Frankland, however, took exception to this on account of the likelihood of overlooking the presence of the typhoid bacillus when scattered among the other colonies of the plate culture, and in his own experiments he eliminated the ordinary water bacteria by the use of Parietti's phenol broth culture for the development of such typhoid or colon bacilli as might be present. His special tests for the differentiation of these were cultures in sterile milk and in ordinary gelatin peptone; the colon bacillus coagulates the milk and yields gas bubbles in the gelatin, while the typhoid bacillus gives neither of these reactions. [Theobald Smith's fermentation tube, which permits the evolved gas to be measured and analyzed, is a great improvement on the gelatin entangled bubble.] Ordinary Thames water artificially infected with typhoid was still found to contain living typhoid bacilli twenty-five days after infection; thirty-four days after infection they were no longer demonstrable. These results were obtained whether the water was preserved at summer or winter temperature, but there was some evidence that on the last day of their detection the bacilli were present, either in larger numbers or in a more active state in the water maintained at the winter than in that at the summer temperature. The B. coli communis persisted for forty days, and probably for a much longer period as no later examination was made, and on the occasion of their last detection they did not appear to have lost any of their original vitality. The typhoid bacillus persisted longer in deep well water than in that of the Thames or Loch Katrine. The addition of salt to the water increased the multiplication of the water bacteria enormously and diminished the duration of life of the typhoid bacillus. When water sterilized by steam was infected with typhoid no multiplication of the bacilli took place. This result was obtained irrespective of the amount of organic matter naturally present in the water used for the experiment. In steam sterilized water, however, the bacilli persisted for a longer time than when the ordinary water bacteria were present; but the greater bactericidal power of unsterilized water was found from some experiments to be not apparently due to the multiplication of the water bacteria and a struggle for existence between them and the typhoid bacilli, but rather to the elaboration of products by these aquatic bacteria, and possibly also by other vegetable life present in surface waters which are inimical and prejudicial to the welfare of the typhoid bacillus. We commend this report to the Water Committee of the American Public Health Association, since the Fifty-third Congress failed to take final action on the bill to appoint a commission to investigate the subject of the pollution of rivers and other natural sources of water supply.

We want a Department of Health to attend to the prosecution of such investigations.

HYPNOTISM AND MARRIAGE

The forensic relations of hypnotism are coming to the front very rapidly. Within a few days, word has come from a small town near Grand Rapids, Mich., that one Peter Branksma was arrested for non-support of his wife, whom he had married two months before, and two days later had left her. He admitted the desertion and said "he would have left her sooner had he known that he had married her." He further averred that he had never spoken of matrimony to the woman, had no thought of getting married and that he could not remember anything of the matter He alleges that she always exercised great control over his mind and that he was hypnotized and made to marry

We fear that this subject of hypnotic influence must have other important defects than simple "tone deafness" which was so characteristic of the late TRILBY O'FARRELL He naively remarks that he would not have remained with this woman two days if he had known that they were married His mind being a blank on this important subject, he was left to act as a free moral (sic) agent But was this actually the case? Was he not actually forced to stay there against his will by the power of hypnotic suggestion? This latter hypothesis is not tenable, because he pleads total amnesia regarding the marriage, while the fact that he lived two days with the woman is quite vivid in his recollection If one circumstance of a given abnormal psychologic state is remembered the others must be We would rather refer this episode to the domain of "auto suggestion" We will not, however, speculate as to their character, merely premising that they must be within the experience and the education of the individual

In the name of all that is good, why did this woman ever allow her husband to come to a knowledge of his miserable matrimonial estate? Why did she not forever keep from him the fact that he was a benedict? For two days she kept him in profound ignorance of his unfortunate position Surely, with her commanding powers, and the intimacy of married life she could have prolonged the suggestion that he was a single man indefinitely and then they might have lived happily ever afterward He, in the happy thought that he was living with a woman not his wife She, with a husband so kind and obedient that not only was her every word a law, but also a suggestion

THE JOURNAL TRAIN

The JOURNAL train will leave Chicago this year *via* the Pennsylvania route A vestibuled train with all the modern improvements Due notice will be given

CORRESPONDENCE

A Letter to an Aspiring "Abdominal" Surgeon

Dear Doctor —After you left, in thinking over the case, I questioned myself if I did right in encouraging you to operate, for although such cases are sometimes easy, as a rule they are complicated and difficult, and for any one to attempt such an operation who has never seen or assisted at any, is a very serious matter To do abdominal surgery, you must prepare yourself, you must have assisted at a great many operations, to see the difficulties you will encounter and find out how to meet them To operate on a case is a very serious matter if you are not prepared and have not the facilities to meet emergencies The great abdominal surgeons in this country—those who have done hundreds of cases, still go around from one city to the other to see other operators and get pointers from them They are never satisfied with their ability, they are always on the lookout to pick up new points in the technique

Abdominal surgeons are products of evolution, they have all been general practitioners for many years, they have especially paid attention to diagnosis Some of them, as the result of environments, became expert obstetricians and consequently also gynecologists Their general practice they gradually gave up, and as gynecology grew, they had finally also to give up the practice of obstetrics, and so became exclusively, gynecologists

The gynecology of the past consisted in smearing a little iodin on the cervix and inserting a pessary for retroversion, with an occasional operation for vesico-vaginal fistula or lacerated perineum But gynecology grew, and it was found that the tubes or ovaries were the cause of the trouble in many cases They were removed, and the gynecologist became a pelvic surgeon

Pelvic surgery frequently requires the repair of injured intestines and of the bladder, sometimes a mistake was made in the diagnosis and what was supposed to be a pus tube, was found to be a diseased appendix, or the enlarged spleen was mistaken for a fibroid tumor, and the pelvic surgeons found themselves obliged to operate on all the abdominal organs and thus they became abdominal surgeons

Another class of general physicians seem to have a peculiar gift in treating fractures and dislocations, and in operating, and thus became general surgeons, as general surgeons they also had to remove tumors of various kinds, they had to open the abdominal cavity, treat diseases of the liver and kidney, and operate for hernia and so became familiar with abdominal surgery They gradually gave up general practice, some of them even gave up general surgery and became abdominal surgeons, pure and simple Thus, my dear doctor, you see that the so called abdominal surgeons have gradually been evolved from the general practitioner They have tried to master all the branches of medical science, they have developed medical skill in every direction, they have studied pathology and etiology, they have kept abreast with the wonderful progress made in bacteriology, and with our improved knowledge of the diseases of the nervous system and of reflex neurosis

In short, they have tried to master a fair knowledge of the general practice of medicine and they tried to become expect in the technique of operations, so that they could diagnose a case which required operation promptly, and make few mistakes, and if the patient required an operation they could perform it quickly and safely

Then for you to attempt such an operation without any training whatever, and without even knowing what the trouble really is, I would consider reckless, in fact, it would be unjust to the patient Yon have no right to trifle with human life in that manner, no matter if the patient trusts you and the family will not blame you if she dies The question before you is, Are you doing the *highest ultimate good to the patient as you have sworn to do* by the Hippocratic oath? Do you think that you can operate as well as some other persons who have had more experience? I think you would not say, yes You must admit that such a patient has 500 per cent more chance to live if she goes to a hospital and is operated on by an experienced man, than if you operate on her without the facilities that a hospital offers This is simply the moral aspect of the case When it comes to the low, common, commercial view, it is a very poor investment on your side In your letter, which I have just received, you say that your future success depends upon the result of this operation You certainly risk a great deal on the cast of the die You know that this case may do you a great deal of harm, your competitors will call you reckless, for there are always plenty around who will do backbiting as you well know, so that you run a very great risk, as you say, of injuring your reputation Now what do you gain? Why, absolutely nothing The patient probably can not pay a cent, and if you should be successful and the patient lives, who will know anything about it? Who will ever hear about it? The few people with whom the woman is acquainted do not amount to anything Your competitors will belittle the operation if she gets well, and say it did not amount to much You will neither pick up any new business nor get any new cases, because they are few and far between If the woman gets well, few will know about it, if she dies, everybody will hear of her death, they will inquire about the cause and find out all about it, and that certainly will not help your reputation, really the game is not worth the powder Such isolated cases as a general practitioner gets of this kind do him absolutely no good They waste more money in buying instruments than they get for the case

If you want to become an abdominal surgeon, come down for a couple of weeks and I will show you all the cases I can Go to Philadelphia and New York and see the great operators and assist them I will be glad to help you and give you letters to these men Then after having prepared yourself for three or four months, by seeing many cases and assisting at them, you can tackle them yourself and may become as expert as any one, but now, without preliminary training, I would advise you to keep your hands off, for you will do yourself no good and only injure your reputation, and you trifle with human life

How much better it is to establish a reputation of being careful and conscientious How much better you stand in a community when you admit that you do not know everything, but that there are special, rare and complicated cases which can only be handled properly by those who devote themselves exclusively to these kind of cases Such honest statements never hurt one in a community, they rather raise you in the estimation of people You establish a reputation for honesty and carefulness, which is so desirable As I have plenty of cases and do not want your case, I thought that it would come in good grace from me to give you this lecture, especially as I would like to see you get along and would not like to see you do things which will hinder your further progress

Hoping that this will be received in the same kind spirit with which it is offered, and to hear from you again, I remain, Yours truly, J H CARSTENS, M D

Retinal Images in Oblique Astigmatism

NASHVILLE, TENN, March, 1895

To the Editor —In your issue of February 23, on page 280, I found the following report of some remarks made in the Chicago Ophthalmological Society, by Dr F C Hotz "Dr Hotz then spoke about the theory of the symmetric action of the oblique muscles in oblique astigmatism, so persistently advocated by Dr Savage He showed that Dr Savage has given no proof of the existence of such action of the muscles Dr Hotz has never been able to find such action in any case of oblique astigmatism and denied that the supposed action would benefit binocular vision He further *proved by demonstrations that oblique astigmatism does not cause obliquity of the retinal images and showed that the laws of physiologic optics do not sustain such doctrine* [Italics mine] The theory is based on false premises and wholly untenable "

In commenting on the above, allow me to say, first, that I was unwilling to do Dr Hotz an injustice and therefore wrote him asking if he had been correctly quoted calling his attention specially to that part of the report which I have italicized By return mail I received this reply "The report you referred to in your letter of the 2[illegible]th is as correct as a brief synopsis of a paper can be " I expected him to confess that he did not believe in my theory of symmetric action of the oblique muscles but I was greatly astonished that he should say that he was correctly reported as to the non obliquity of retinal images in oblique astigmatism This obliquity of retinal images was demonstrated as long ago as 1889 by Dr J A Lippincott, who published the results of his studies in the March, 1889 issue of the *Archives of Ophthalmology*, in which he had cuts, demonstrating his views

Let Dr Hotz take any case of astigmatism of more than 3 D, with the meridian of greatest curvature either vertical horizontal or oblique, and if the patient has ordinary intelligence he can soon satisfy himself that astigmatism is not only capable of blurring but also of distorting an object One eye should be excluded while the patient is asked to look at a rectangular card, two by four inches held vertically immediately in front of the patient at the reading distance As the card is revolved on a pin pierced in its center the patient should be asked its shape when at three different points When the long sides of the card are parallel with the meridian of greatest curvature, the patient will say it is a rectangle, when these sides form an angle of 45° with the meridian of greatest curvature the answer will come quickly that it is a parallelogram, again when these sides are brought to right angles with the meridian of greatest curvature, the card again is seen as a rectangle But, possibly, Dr Hotz is ready to say that these statements as to the distortion of the object prove nothing as to the distortion of the retinal image Let us see The law of projection (direction) is supreme in monocular vision, therefore the lower border of the retinal image must be in the same plane with the upper border of card, and so on for all the borders of card and image, and these planes must all cut the nodal point Then in obedience to this law the image must be oblique when the object appears to be thus distorted

Only one other argument as to the distortion of the retinal image in an astigmatic eye when the object is held so that its outlines are oblique to the principal meridians All will agree that the meridian of least curvature is the line of union of the bases of the prismatic arrangement of the astigmatic cornea, and that all prisms refract light towards the base Let us then take the right eye of a case of astigmatism, with the meridian of least curvature at 135° A horizontal line held before this eye will send rays of light from its entire length into the eye, but for convenience of study we will consider only the axial rays coming from the two extremities This ray from the left end of the line strikes above the meridian of least curvature and must be bent towards it, its subsequent course in the eye necessarily being down and out, the axial ray from the right end of the line strikes below the meridian of least curvature and must be bent towards it, the course of this ray, after refraction, being up and in Thus it is easily shown that the image of this horizontal line must be inclined down and to the right Because of this declination of the image, the line itself seems inclined to the same extent and in the same direction This is one law of physiologic optics My premises not being false, my theory may be true My theory is not only true, but I have been able to show that it has a highly practical side This is set forth in my paper presented at the Eighth International Congress of Ophthalmology

The distortion in oblique astigmatism of the retinal image, in monocular vision, is settled by the law of direction, the rotation of the eyes by the oblique muscles, in oblique astigmatism, is compelled by the more powerful law of corresponding retinal points

In closing, allow me to make the following quotation from Dr Maddox, of Edinburgh "Dr Savage has shown that a certain amount of corrective torsion, or, to substitute his own words, 'of harmonious symmetric action of the obliques, is necessary when oblique astigmatism exists in both eyes, since the retinal images of vertical objects are not themselves vertical, and that correcting cylinders which make these images vertical alter the torsional requirements These facts may well have the practical bearing he claims for them'"

Very truly,

G C Savage, M D

Malaria a Waterborne Disease—An Old Idea

Tecumseh, Mich, Feb 9, 1895

To the Editor —Some discussion has lately taken place in the Journal and the *Medical Record* in reference to malaria being a waterborne disease That malarial poison is disseminated through the medium of water as well as through the atmosphere is generally mentioned by almost every writer who has given the subject attention

Permit me to quote from a few modern authors In Reynold's "System of Medicine," Dr W C Maclean states "That it is a common belief in India that water is capable of absorbing malaria, and that periodic fevers, dysentery, and even cholera are produced by drinking water so charged" Dr Bristowe states in his work on "Theory and Practice of Medicine" "That it is dangerous (according to some) to drink the water, however pure it may seem to be, which is furnished by the soil of such localities" Referring to malarious localities, Dr Loomis, in his excellent work on "Practical Medicine" says "The question arises, How does malarial poison gain entrance into the human body? The most reasonable view is that this is effected through the respired air Certain facts seem to show that it may be introduced through the intestinal tract with the food and water There seems to be scarcely a doubt but that it may be taken into the stomach with foul drinking water" In Pepper's "System of Medicine" edition 1884, Dr Samuel M Bemiss states in his article on malarial fevers "That malaria is miscible with water It is capable of being carried by currents of water through distances and periods of time altogether undetermined without losing its toxic effect or, perhaps, the faculty of reproduction It is more than likely that this means of conveyance has effected its distribution to continents and islands too widely separated to justify a belief that it was wind-wafted No observation need be adduced to establish the waterborne habit of the malarial poison, or the positive liability to its toxic effects when received into the stomach through this medium These facts have been well understood from the time of Hippocrates"

Dr W Gilman Thompson, in the "American Text-book on the Theory and Practice of Medicine" states "The mode of malarial infection is not definitely understood The miasm seems to enter the system through the medium of inhalation, while at other times it apparently enters through the alimentary canal by means of contaminated drinking water, or other fluids exposed to a malarial atmosphere"

Quotations might be made from various other writers on this subject, in order to illustrate the fact which has long been known to the medical profession, that malaria is a waterborne as well as an airborne disease

Very respectfully yours,

J F Jenkins, M D

Injections in Hernia

Brewton, Ala, March 6, 1895

To the Editor —Will you kindly give me the formula used for the radical cure of hernia by the injection method? Also please state whether or not you consider such injections safe, and if not, what is the special danger?

By so doing you will confer an appreciated favor Also please refer me to any literature on the subject of which you may know

Respectfully,

L M McLendon, M D

Answer

Fl Ext Querci Albæ (reduced by distillation one half)	64	
Alcohol, 90 per cent	16	
Ether Sulph	8	
Morphiæ Sulphatis		24
Tr Veratri Viridis	8	

M

Inject from 5 to 20 drops in small and recent herniæ, but 25 to 50 drops in old and larger herniæ Heaton See also Heaton on Cure of Rupture, Boston, 1877

Tetanus Toxin

Colorado, Tex, Feb 8, 1895

To the Editor —I am preparing an article on "Tetanus" to be read at the meeting of the State Association in April Will you do me the kindness to give me the result of treatment so far as you can, with inoculations of tetanus toxin in your city?

Very truly yours,

P C Coleman, M D

Chromicizing Catgut

Milwaukee, Wis, March 6, 1895

To the Editor —The formula for chromicizing catgut according to Lister, as quoted by you from Lucas-Championnierre, contains no chromic acid

Yours truly,

Frederick Shimonek

Answer —We gave the original formula for carbolized gut, but Professor Lister (*Trans Int Med Cong*, Philadelphia, 1877, p 538) said 'I have at last made a mixture of carbolic acid, glycerin, chromic acid, spirit of wine and water, which I think will prove the very thing required," but he did not give the exact formula The following from Wharton will be found useful ' Soak the catgut in alcohol a short time, then place it in the following solution for forty eight hours

"Chromic acid		06
Carbolic acid	12	
Alcohol	8	
Water	80	

M

'It is then removed and placed in glass jars for use Before using soak for thirty minutes in a 5 per cent solution of carbolic acid"

ASSOCIATION NEWS

The Baltimore Meeting—Hotel Accommodation and Rates

The hotels named below have agreed to accept a reduction from their regular rates for accommodating the members and delegates attending the meeting of American Medical Association in May next All of these houses are first class and will give satisfactory service The capacity of each house mentioned shows the number of rooms available at the time of meeting, as estimated by the proprietor

European Plan —Hotel Stafford (headquarters), Washington Place, capacity 150, rooms $1 50 to $5 per day Hotel Rennert Saratoga and Liberty Streets, capacity 250 rooms $1 50 and upward per day, Mt Vernon Hotel, Mt

Vernon Place west, capacity 10, rooms $1 50 per day, two persons in room $2 50 per day, Hotel Imperial, Monument Square, capacity 100, rooms $1 to $1 50 per day, Hotel Studio, Charles Street and Mt Royal Avenue, capacity 10 to 15, rooms $1 50 per day

American Plan —Carrollton Hotel, Baltimore and Light Streets, capacity 250, $3 to $4 per day, Hotel Altamont Eutaw Place and Lanvale Street, capacity 50 to 100, $2 50 per day, Hotel Albion, Cathedral and Richmond Street, capacity 40 to 60 $2 50 to $4 per day, Eutaw House, Baltimore and Eutaw Streets, capacity 60 to 100, $2 50 to $4 per day

In addition there are a number of smaller hotels and many excellent boarding houses where accommodations can be had for from $1 to $2 per day A list of these will be kept at the registration desk during the meeting

Any one preferring the quiet, comfort and economy of a family hotel or boarding house can have the necessary accommodations reserved by making early application to the Secretary of the Committee George H Rohe,

Secretary Committee of Arrangements

Section on Ophthalmology — Preliminary program of the Section on Ophthalmology of the American Medical Association for the Baltimore meeting

1 Address of the Chairman, Edward Jackson, Denver, Colo

2 Incipient Cataract, by A R Baker, Cleveland, Ohio Discussion opened by Boerne Bettman, Chicago, Ill

3 The Operation for Secondary Cataract, by J W Thompson, Kansas City, Mo

4 The Operative Treatment of Immature and Some Forms of Zonular Cataract, by J E Weeks, New York N Y Discussion on Cataract opened by Boerne Bettman Chicago, Ill

5 Case of Congenital Ectopia Lentis with Diplopia, by F C Hotz, Chicago, Ill

6 Ectopia Lentis, by F B Tiffany, Kansas City, Mo Discussion on Ectopia Lentis opened by Harold Gifford Omaha, Neb

7 Symposium on Plastic Operations about the Eye, (a series of five minute papers) Skin Grafting on the Eyelids, by F C Hotz Chicago Ill, The Restoration of the Eyelids with Sliding Flaps by W C Tyree, Kansas City, Mo, Practical Points in Anesthesia for Plastic Operations about the Eye, by M W Zimmerman, Philadelphia, Pa Papers by Eugene Smith Detroit, Mich, and Herbert Harlan, Baltimore, Md Discussion opened by R A Reeves, Toronto, and G C Harlan Philadelphia, Pa

8 Symposium on Operations on the Ocular Muscles, (a series of five minute papers) The Indications for and the Advantages and Technique of Muscle Shortening by G C Savage, Nashville, Tenn, The Slight Effects sometimes Produced as the Results of Free Tenotomies of the Ocular Muscles for Heterophoria, by S Theobald, Baltimore, Md, The Technique of Tenotomy of the Ocular Muscles, by L Connor, Detroit, Mich, The Limitations of Tenotomy of the Ocular Muscles, by H F Hansell Philadelphia, Pa Papers will be read by Hiram Wood, Baltimore, Md and C H Thomas, Philadelphia, Pa Discussion opened by G T Stevens, New York, and S D Risley Philadelphia

9 Hysterical Affections of the Eye Muscles, by H Gradle, Chicago, Ill

10 Strabismus, by C M Hobby, Iowa City, Iowa

11 Practical Points Gained in the Treatment of One Thousand Cases of Insufficiency of the Ocular Muscles, by J W Park, Harrisburg, Pa Discussion opened by S Theobald, Philadelphia, Pa

12 A New and Almost Bloodless Enucleation Operation, by Boerne Bettman Chicago, Ill

13 Evisceration of the Eyeball, by L Webster Fox, Philadelphia, Pa Discussion opened by S D Risley and G O King Philadelphia, Pa

14 Histologic and Bacteriologic Notes on Some Cases of Penetrating Wounds of the Eyeball, together with Experimental Observations on certain Bacilli found in a Case of Post-operative Panophthalmitis, by G E de Schweinitz, Philadelpha, Pa Discussion opened by R L Randolph, Baltimore, Md

15 A Clinical Study of the Ulcerative Diseases of the Cornea, by S D Risley, Philadelphia, Pa Discussion opened by C J Kipp Newark, N J

16 The Infiltration Method of Anesthesia in Ophthalmic Practice, with Demonstration, by Harry V Wurdemann, Milwaukee, Wis Discussion opened by Harry Friedenwald Baltimore, Md

17 Report of Committee on the Scientific and Hygienic Value of Examining the Eyes in the Schools, by B Alex Randall, Philadelphia, Chairman, W F Southard, San Francisco and others

18 The Use of Prisms to Increase Vision in the Formation of New Macula in Conical and Leucomatous Corneas, by G M Gould Philadelphia Pa Discussion opened by T H Fenton Philadelphia, Pa

19 The Percentage of Symmetrical and Asymmetrical Meridians of the Cornea in Astigmatic Eyes by S D Risley, and J T Thorington, Philadelphia Pa

20 Two Thousand Five Hundred Cases of Ocular Headaches and the Different States of Refraction connected therewith, by W F Mittendorf New York

21 A Study of the Refraction of One Thousand Five Hundred Eyes by H Bert Ellis Los Angeles Cal

22 Latent Astigmatism by W H Starkey Chicago Discussion opened by W H Wilder Chicago Ill

23 Anisometropia by W F Southard San Francisco Discussion opened by S D Risley Philadelphia Pa

24 Some Rare Complications of Infantile Purulent Conjunctivitis by A A Hubbell Buffalo N Y Discussion opened by B Alex Randall Philadelphia Pa

25 Retrobulbar Tumor, by S C Ayres Cincinnati Ohio Discussion opened by J A White Richmond, Va

26 A Case of Enchondroma of the Cartilage of the Upper Lid by P D Keyser Philadelphia Pa

27 Extensive Changes in the Choroid with report of Cases, by J T Carpenter Jr Philadelphia Pa

28 Anomalies in Ophthalmic Practice by A C Corr Carlinsville Ind

29 The Relationship Between Eye and Brain, by J N Lydston, Chicago Ill

30 Eight Years' Experience with the Surgical Treatment of Trachoma, by H Gifford, Omaha Neb

31 Hemorrhages into the Retina and Vitreous in Young Persons Associated with evident Disease of the Retinal Blood Vessels, Remarks on the formation of Vessels into the Vitreous and in a Case of Emigrating Subhyaloid Hemorrhage by Harry Friedenwald, Baltimore Md

32 Formalin as a Preservative Agent of Eye Specimens by W H Wilder Chicago Ill Discussion opened by F C Hotz Chicago Ill

Papers will be read by C I Kollock Charleston, S C, D S Reynolds, Louisville Ky L J Lautenbach Philadelphia, Pa, C A Oliver, Philadelphia, Pa

H V Wurdemann, Secretary

Section on Dental and Oral Surgery —Dr M H Fletcher Chairman, Dr Eugene Talbot, Secretary

Chairman's Address, Bacteriology by S A Hopkins Boston

Adenoids, by Geo F Eames Boston

The Effect of Sterilizing Processes upon Steel Instruments, by Wm H Potter Boston

Common Ground of Medicine and Dentistry, Joseph Roach, Baltimore

Destruction of Children's Teeth, Cause and Remedy, by J G Hunsler, Baltimore

The Progress of Modern Dental Practice, by A H Thompson, Topeka Kan

Suppuration of the Intermaxillary Bones with Fistulous Opening into the Nasal Cavity, Two Cases, by W Xavier Sudduth, Minnesota Ulceration of the Oral Cavity and its Treatment, by Dr Genese Baltimore

Specific Treatment of Necrosis of the Alveoli and Maxillae with Sulphuric Acid, by W A Mills, Baltimore

Diseases of the Soft Parts of the Mouth and Ill Developed Jaws by W S Twilley, Baltimore

A Presentation of Inflammation and Tumorous Growths caused by wearing Rubber Denture, by Bernhard Myer, Baltimore

Calcification of the Teeth, by R R Andrews, Cambridge

The Value of Differential Diagnosis in Dentistry, by Vida A Latham, Chicago

The Discovery of Anesthesia and its Outgrowth Rapid Breathing as a Pain Obtruder in Minor Surgery and Medicine with its History and Application for Twenty Years, by W Bonwill, Philadelphia

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The Forty sixth Annual Session of the American Medical Association will be held in Baltimore, Md, on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 a m

PUBLIC HEALTH

Progress of Cremation —In the annual report of the Cremation Society of England, it is asserted that the sentiment of the public against cremation is declining, and the success of the crematorium at Woking has been so satisfactory as to warrant the consideration of a proposal to build one near London

Sewerage of Constantinople —The Commission on the sanitation of Constantinople, appointed by the Sultan, recently held its first session, at which it was decided to construct main sewers in those parts of the city where none exist and to repair the existing sewers which, in their present condition are not only useless but a constant menace to the public health It was also decided to take measures for the paving and repairing of the streets wherever necessary

The Healthiest Year —The remarkable healthfulness of 1894 is again shown in the registration returns for England and Wales The death rate for these countries—16 6 in 1000—is the lowest ever recorded, being 1 5 per 1000 below the lowest previous rate, that of 1888 which was 18 1 It was also 2 6 per 1000 below the mean annual rate of the preceding ten years On the other hand, the birth rate is also the lowest ever recorded—29 6 per 1000 of population, which is 2 0 per 1000 below the mean rate of the previous ten years The birth rate in these countries shows an almost continuous decline for the decade—from 33 6 in 1884 to 29 6 last year

"Freshened" Beans —The Hygienic Council of Paris, having been consulted as to whether beans soaked in water to freshen them and give them the appearance of green beans were injurious to health, has reported (*Le Progres Medical*) that the radicles begin to develop by reason of this soaking and that this gives rise to different chemic substances, none of which, however, can be considered dangerous On the other hand, a great many of these soaked beans present traces of moldiness between the cotyledons and a deep green coloration in the cotyledons themselves Microscopic examination shows the presence on the surface of the well-known fungus *Penicillium glaucum* and of myriads of its spores in the colored spots of the cotyledons Without pronouncing on the character of the fungus, the Council calls attention to the fact, now apparently well established, that the spores of this fungus introduced into the blood are capable of producing a skin disease They conclude that "soaking beans produces enough alteration in their tissues to justify a prohibition of their sale"

The "Influenza" Fad —Speaking of the so-called influenza epidemic in Great Britain, of which the JOURNAL has made note from time to time, a recent number of the London *Lancet* gives voice to a doubt which must have occurred very generally to the professional mind in this country Is influenza really so prevalent as current gossip represents it to be? If by "influenza" is meant an acute febrile attack of short incubation, the onset characterized by severe muscular aching, rigor, high temperature and intense headache, with sometimes vomiting and diarrhea, these symptoms passing off in from twenty-four to thirty six hours, leaving the patient greatly prostrated and with a troublesome cough and some bronchial catarrh—how many such cases are actually met with this season? While admitting that some sporadic cases of influenza are to be found, our cotemporary warns against the growing habit of calling every indefinite feverish attack by this name "That it is a temptation no one will deny, especially when we consider how anxious patients are that their disease should be named and how the practitioner is apt to be looked down upon if he says he can not do so *But it must also be remembered* that influenza is a serious disease, and it is therefore unwise to call every febrile catarrhal affection by this name, for these latter, when properly treated, *never leave any serious* sequelæ, whereas the former complaint, even though treated with every care, may, and often does, leave a large legacy of grave evils behind it"

Height of Buildings —The London Building Act which went into effect Jan 1, 1895, fixes 24 meters as the maximum total height for dwelling houses Dwellings in streets less than 15 meters in width can not exceed this height The height of houses in France has been regulated by law for over a century The ordinance of April 10, 1783, confirmed by that of 1792, fixed this at 54 feet (this, prior to the vogue of the metric system) in streets 30 feet wide, and 45 feet in those of less width Legal restrictions have since been adopted in the principal French cities In Paris the ordinance of July 23, 1874, fixed the maximum height of buildings at 12 meters in streets less than 7 80 meters in width They may be 15 meters in streets 7 80 meters to 9 75 meters, 18 meters in those from 9 75 meters to 20 meters, any streets wider than this may have the buildings 20 meters high In Lyons the highway ordinance of 1874 allows buildings to be 22 meters in height on quays and places of 59 meters in width, 20 50 meters in streets over 10 meters, 19 meters in streets over 8 meters and 18 meters in narrow streets These measures are considered insufficient by hygienists of all countries According to German authorities the two dimensions should be equal This was also the rule established at the Buda-Pesth Congress, on motion of Corfield, of London Trelat goes still further, he recommends that the width of the street be one and one-half times the height of the house This goes too far, according to *L'Union Medicale*, as in the older cities we must be content with less spacious streets when new building lines are established on the older streets

Prevailing Morbidity —During the first part of March there is reported a decided increase of the acute lung diseases, the diarrheal diseases and—*except diphtheria—of the* acute infectious diseases throughout the country There has been a recrudescence of smallpox in localities where it was sensibly diminishing during January and February, and, in the lower Mississippi valley—from St Louis south—the disease is very generally prevalent and increasing In the extreme south—Texas, *for example—it is asserted that* "the region is full of smallpox germs imported by Mexicans who were brought in to gather last year's cotton crop," in some northern localities—Chicago, for instance—the increase is attributed to refugees fleeing from smallpox in the South, and outbreaks are traced to Hot Springs sojourners and to *negro colonists* from Tennessee These *pleas in extenuation* and defense have little weight with the sanitarian, who points out that any well-vaccinated community may safely invite immigration from the Gaboon country itself, where smallpox is endemic and perennial

Although influenza is *increasing in frequency and fatality —as judged by the mortality returns of the large cities—it* is still an insignificant factor of the prevailing morbidity in this country when compared with its newspaper ravages in the Old World A late cable dispatch says that while London is indulging the hope that the crisis of the combined affliction imposed by influenza and inclement weather is passed, Paris, Vienna and St Petersburg "still cry out in bitterness of spirit almost equal to the plague stricken Egyptians" It is admitted, however, that the disease is declining, but they manage to get a grewsome satisfaction out of an apprehended outbreak *of* typhoid and diphtheria '*owing* to the long disuse of thousands of drains [sewers]" frozen up and unflushed for a month or more The dispatch cited says that ' the sanitary condition of London, which is usually the best of any great city in the world is now extremely unsatisfactory," owing to the causes just *mentioned*

Health Reports—The Supervising Surgeon General of the Marine Hospital Service has received the following health reports

SMALLPOX IN THE UNITED STATES

Texas In compliance with your request under date of March 2 which I have the honor to acknowledge, I herewith report the presence and present status of smallpox in Texas The disease originated at Taylor, Williamson County the first case making its appearance in a boy—the child of a restaurant keeper, about February 15 The infection was introduced by Mexican laborers, brought here for farm hands The presence of this case was concealed from the authorities until in the pustular stage, meantime many persons had been exposed and gone on their way, hence the dissemination of the infection It was next reported at Wortham in Freestone County near the line of Navarro County, and a few scattering cases at other points in the latter county A case was also reported near Hutto, on the M, K & T Railway I visited each of the infected localities upon the request of local authorities, and personally saw that all necessary steps were at once taken to prevent the spread of the disease Three cases were reported to this office as having appeared at Fort Worth Dr Cunningham the city physician, reported that he did not know the source of the infection, and that a number of transient persons had been exposed before the disease was diagnosed, and escaped the health authorities It is unnecessary to say that each case, as developed is promptly isolated and strictly guarded that all persons known to have been exposed are separated and kept under observation during the period of incubation and that disinfection and very general vaccination are practiced I inclose a copy of a circular letter of instructions issued to local health officers, which instructions are being everywhere enforced where the disease appears Only a few cases—two, three or four—have occurred at any one point and they have been in the persons of those primarily exposed *i e*, exposed to the first case developed from the imported infection This constitutes the 'second crop,' and as the exposure has taken place generally, before the presence of the disease was known, as in the first case at Taylor or before a diagnosis had been made, it is impossible to forestall its development Later, it is within the scope and power of sanitation to arrest further propagation I have no fear whatever of the disease assuming anywhere the proportions of an epidemic

(Signed) R M SWEARINGEN, M D

March 5 1895

Louisiana New Orleans, February 24 to March 2 1 case

New York Brooklyn, March 2 to 9, 1 case

Michigan Three Rivers, March 1 to 7, 1 case

Missouri St Louis, March 2 to 9, 33 cases 6 deaths

Pennsylvania Philadelphia, February 24 to March 2, 10 cases

Wisconsin Milwaukee, February 24 to March 2, 7 cases, 2 deaths

Texas Taylor, February 15 to March 2, 1 case, Wortham, February 15 to March 2, a few cases, Fort Worth, February 15 to March 2, 3 cases

FOREIGN

Reports of smallpox received by the Supervising Surgeon-General Marine Hospital Service

Austria Buda Pesth February 11 to 18, 1 case, 1 death

Belgium Antwerp February 9 to 16, 3 cases, 2 deaths

Bohemia Prague February 2 to 9, 11 cases

Great Britain London, February 9 to 16, 3 cases, February 16 to 23, 1 death

Gibraltar, February 10 to 17, 3 cases

India Calcutta, January 19 to 26, 36 deaths

Holland Rotterdam, January 16 to 23, 5 cases 1 death

Russia St Petersburg, February 2 to 26, 13 cases, 9 deaths

Honduras Tegucigalpa, February 2 to 9, 1 case

Scotland Glasgow, February 16 to 23, 2 deaths

RIO DE JANEIRO

I have the honor to transmit report for the week ended Feb 9, 1895 In this week there were 24 deaths from accesso pernicioso, an increase of 4, 14 from yellow fever, an increase of 9, 3 from smallpox, and 2 from enteric fever, the same as in the week before, 1 from beriberi, a decrease of 1, 1 from diphtheria, and none from whooping cough, 4 from cholera, an increase of 3, 7 from diarrhea choleriformis an increase of 5, and none reported from cholerina against 1 in the previous week The total from all causes was 299, being 10 more than in the foregoing week

While there is an increase in the number of deaths from yellow fever, it can not yet be considered epidemic or threatening as it is almost too late in the season for it to develop to any great extent, yet all due precautions must be observed

Cholera does not appear to be extending in the originally infected districts, though it has extended all along the Parahyba River to Campos near its mouth presumably due to the relaxation of sanitary measures by the authorities under pressure of the press To this same cause may be attributed the appearance of isolated cases in this town [illegible] were reported as dead from cholera [illegible] were removed to the hospital in Jurujuba Bay I have heard of no cases among the shipping except one aboard the ship [illegible] which left here for [illegible] sixty miles to the [illegible] ward and put back with a case aboard [illegible] and all the customary disinfections performed Telegrams from the Platte River state that the disease [illegible] there in several towns but really no [illegible] in such [illegible] here

I visited the Vaccine Institute which is a municipal institution, and found everything in perfect order and the cleanliness is remarkable although there are [illegible] three calves (2 months old) in the stables not the slightest odor was perceptible They furnished me with [illegible] Hubbard's tubes all of which produced the typical [illegible] pustules The establishment is in a newly arranged building and wants nothing, it is creditable to its authorities

[illegible], M D Sanitary Inspector, M H S

Feb 12 1895

CHOLERA

India Calcutta, January 19 to 26 12 deaths, Madras January 26 to February 1 11 deaths

Brazil Rio de Janeiro February 2 to 9, 12 suspected cases

Turkey Constantinople January 29 to February 4 [illegible] cases 22 deaths

Austria Hungary Galicia February 3 to 10, 11 cases, 7 deaths

YELLOW FEVER

Brazil Rio de Janeiro February 2 to 9 14 deaths

The clerk of the Bridgetown (Barbados) Quarantine Board reports that yellow fever has been reported by arriving vessels at following places Curacoa, January 1 to 4, 3 cases 3 deaths, Panama January 31 sporadic cases

Under date of February 11 the U S Consul at Santos Brazil reported that during the week ended February 9 there were twelve cases of yellow fever in that city and eight deaths from the same disease

Under date of February 18, the U S Consul General at Guayaquil, Ecuador reports three deaths from yellow fever in that city during the week ended Feb 11, 1895

The U S Consul at Vera Cruz Mexico, reports under date of March 1, that there was one death from yellow fever in that city during the week ended Feb 28 1895

NECROLOGY

BENJAMIN BURROUGHS, M D, of Brooklyn, N Y, died March 7, at the age of 47 years He was graduated in medicine at the Long Island College Hospital in 1885 and soon afterward settled in the city named He was a member of the Kings County Medical Society, and was for a time an employee of the Health Department and in that capacity served with marked credit and efficiency About a year ago he manifested symptoms of pulmonary tuberculosis, and from that affection died, leaving a large circle of friends to mourn his loss

ALBERT C HALLAM, M D, of Brooklyn, N Y, died Jan 9, 1895, in his fiftieth year He was a native of Watertown, Conn He obtained his medical education at Yale University, graduating in 1866 He practiced in Brooklyn from the year 1867, and was a member of the local medical society for many years and in a number of social organizations was recognized as an influential citizen Dr Hallam was appointed a member of the Board of Education in 1882, by Mayor Seth Low He was Vice President of the Bushwick Savings Bank, and was a director of the Amphion Academy Company He was a life member of the Amphion Musical Society, and was also one of the founders of the Hanover

Club He was a member of the Union League and of the Windsor Club His death occurred from an attack of uremic coma due to chronic renal disease that manifested itself fully two years before He was twice married His widow with two daughters survive him

Robert Ogden DuBois, M D, of New York City, died March 9, in the thirty-sixth year of his age He was born in that city of old Huguenot stock and of a family branch that has been frequently represented in medicine He was graduated from Yale Medical Institution in 1886, and was an assistant surgeon to the Eye and Ear Infirmary, as others of his name had been before him

Arnold Hallett, M D, formerly of Brooklyn, N Y, died at Norwalk, Conn, on the 10th inst He was a native of St John, N B, having been born there nearly seventy years ago He was for many years attached to the surgical staff of the Long Island College Hospital, and an honored member in the local medical societies He was an alumnus of the College of Physicians and Surgeons He early acquired a lucrative medical business, and retired several years since from active practice

S Vohden, M D, aged 69, Baltimore, Md, March 1——L Burden, M D, Lagrange, Ind, March 3——F Harding, M D aged 33, Norwalk, Ohio, February 25——M S Butler, M.D, Cherokee, Iowa, March 3——H Schneider, M D, aged 53, Baltimore, Md, February 28——W A Stovering, M D, Cleveland, Ohio, March 3——A Deitrichs, M D, Denver, Colo, March 8——A B Mason, M D, aged 51, Wadestown, W Va, March 4——B E Vaughan, M D, aged 32, New York, N Y, February 25——W Lemon, M D, Staples, Minn, March 5——A J Applegate, M D, Indianola, Iowa, March 2————S O Scudder M D, Rome, N Y, March 2——D Towne, M D, Worcester, Mass, February 25——F H Hoadley, M D West Palm Beach, Fla, February 25——R R Taylor, M D aged 70, Philadelphia, Pa, February 26——C M Gaylord, M D, of Mason City, Iowa, March 11——I N Fox, M D, of Woodstock, N H, March 6, age 35——J M C McLaughlin, M D, of Kansas City, Mo, March 6

MISCELLANY

High-Priced Cod-Liver Oil —Another cod-liver oil famine, similar to that of eight or ten years ago, has caused a considerable raise in price with an intimation of a still further advance The famine is attributed to the prevailing leanness of the fish during the last year or two The increase in price already amounts to over 100 per cent and the effect is seen in the instructions given to hospital staffs to be economical in prescribing the oil

Generous Donation by a Physician —The Ohio Wesleyan University has received a gift of $50,000 from Dr Charles E Slocum, a reputable physician at Defiance, Ohio, for the purpose of enabling that institution to erect a fireproof library building Dr Slocum is an alumnus of the College of Physicians and Surgeons, New York, and Jefferson Medical College, also a member of the American Medical Association and several other national scientific bodies

Wounds of the Eye —Ottinger has collected (*La Presse Medicale Belge*) the statistics of 1,000 cases of ocular traumatism, 398 of the right and 602 of the left eye Of these, 715 were operative wounds and 287 accidental Among the former the right eye was involved in 272 cases and the left in 443, among the latter, the right 128 times and the left 159 times These figures corroborate those of Cohn, showing that the left eye is more exposed than the right

Medical Education in New England —The faculty at Yale University has decided to advance the period of the regular medical course from three up to four years A committee has been appointed to make the necessary changes and announcements The faculty at Harvard has voted to authorize certain approved physicians to announce their proposed instructions yearly in the medical department These extra-mural teachers will receive this privilege upon application to a special committee, of which Dr E H Bradford is chairman

University of Maryland —As an addendum to the table of medical colleges and college attendance, republished by request in the Journal of the 9th inst, the University of Maryland, Faculty of Physics—J E Michael, A M, M.D, Dean—reports a total attendance at the current session of 240 students, 104 first-year, 78 second-year and 58 third-year The figures of the total are the same as for the preceding session, but there is a gain of nearly 20 per cent in the first-year men as compared with the previous year—the classes of 1893-94 numbering 87 first-year, 83 second-year and 80 third-year students

Safeguarding Street Car Travel —The Camden, N J, Board of Health is pushing the passage of an ordinance to compel all street, trolley and steam cars to be fumigated daily The Brooklyn, N Y, Board of Aldermen is considering action looking to the appointment of inspectors for every line of surface cars operated in that city, the inspectors to regulate the speed, passage of street crossings and other measures for the safety of passengers and pedestrians During the discussion Alderman Clark, the mover of the resolution, asserted that two, three and sometimes four people a day are killed by the surface cars in Brooklyn This, if true, is worse than the surface crossing slaughter in Chicago

A Surgeon Slain by a Lion —Surgeon E S McKay, of the British Navy, is reported by the *Illustrated London News* to have been slain by a lion, near Lake Nyassa, Africa This young man was an athlete and a prize-winner in cycling circles After taking his medical degree he went out to Africa, for three or more trips, as surgeon to steamers In 1889 he obtained an appointment as surgeon in the Navy, serving on the SS *Swallow* and *Herald* He volunteered for duty in Central Africa and while there had a few days' shooting among the elephants and large game near Lake Nyassa One day, however, he came unexpectedly on a lion and lioness, the former of which he wounded In pursuing the animals the surgeon advanced too far The enraged beast sprang upon him and injured him fatally He was buried with naval honors on the shore of the lake

Pay-Hospital for Infectious Diseases —A wealthy lady residing in New York City has responded to a suggestion that room exists in that city for an institution whereat the well-to-do, so unfortunate as to contract contagious disease may receive suitable treatment, and has started a subscription fund with a check for $25,000 The general plan of operation of the fund will imply, says the *Medical Examiner* for February, "that the hospital shall be a private hospital, that the money shall be used solely for the purpose for which it is given, no part of it to be applied to the improvement of any existing institution, and that the management shall be in the hands of the Board of Health and of a board of trustees appointed by the subscribers to the fund toward the erection of the hospital"

Mixed Infections in Gonorrhea —Bordoni-Uffreduzzi reports in the *Gazette Medicale de Liege* the case of a young girl ravished by a man suffering from gonorrhea A few days later, double pleuritis supervened, numerous joints being also involved Gonococci were found in the pleuritic exudate and cultures by Wertheim's method showed that no other bacteria save these were present This case adds to the mass of evidence previously accumulated which tends to negative the theory advanced by some authors that all the complications of urethritis are due to secondary infection According to this theory, the presence of the gonococcus in the organism arouses the action of other noxious bacteria which then cause the symptoms—the gonococcus being unable alone to produce them This hypothesis is combated by a number of conclusive observations similar to this of Bordoni's

Treatment of Epistaxis by Digital Compression—Szcypiorski reports (*Arch Med Belges*) a case of epistaxis treated by digital pressure A robust laborer, [illegible] years of age was seized with spontaneous nasal hemorrhage, before the writer arrived, tampons saturated with Monsel's solution had been tried with no avail blood continued to gush from the left nostril An injection of hot water was used and the antero-superior part of the nostril was cauterized with nitrate of silver This arrested the hemorrhage for a time but a sudden fit of sneezing started it again The idea then occurred to Szcypiorski to pinch the nose somewhat energetically between the thumb and index finger The hemorrhage stopped immediately The compression lasted uninterruptedly for ten minutes and was repeated by the patient at each sneeze Since this case the author has used the same method in many cases of spontaneous epistaxis and always with the same success

Statistics of Symphysiotomy—Pinard has given to the Baudelocque Clinic the results of his symphysiotomies for the year ending Dec 7, 1894—*Ann de Gynécologie* During this time Pinard and his pupils made 22 symphysiotomies Full details are given of the last 12 cases The presentation was vertex in 9, breech 2, face 1 In the 9 vertex presentations the forceps were applied five times In the four others, the labor proceeded spontaneously after dividing the symphysis In the 22 cases, 3 mothers and 22 children died During the operation Pinard had no hemorrhage or laceration of the vagina by the pubis, which he attributes to the preliminary use of Champetier's balloon The results of the operation were very good All the cases seen after a greater or less time since their accouchement were able to pursue their usual vocations Pinard's cases amount to 49 altogether Of these, 5 of the 49 children and 4 of the 49 mothers died These figures—8.2 per cent mortality—are much more satisfactory than those of foreign authors who give 12 per cent for the mother According to Neugebauer, Olshausen *et al*, symphysiotomy is nearly as grave as Cæsarean section, the latter giving 14 to 15 per cent mortality The usual and most serious complications are hemorrhage—one case in seven—and laceration of the vagina, which is also frequent Among Pinard's cases two had been operated on once before In this connection Gueniot has insisted on the difficulty of dividing the symphysis in cases already operated on, and Budin reports a case in which there was a thick fibrous band behind the articulation, remaining from the first operation

More Microbial Mischief—Another microbic terror, familiar heretofore in an inoffensive guise, is exploited by Dr A Gilbert of the Paris Faculty of Medicine Escherich's bacillus—the *B coli communis*—is, according to Gilbert, the *fons et origo* of a number of diseases whose causation has hitherto been veiled in obscurity The bacillus coli is prolific in the production of toxins whose action has been tested in rabbits with the production in the first degree, of mydriasis, cutaneous anesthesia, muscular weakness and coma, in the second degree, of convulsions, nystagmus and hyper excitability of the skin and of the organs of sense, the third degree is signalized by violent tetanic contractions terminating in death Unlike other species of microbes in the gastro intestinal tube, which become rarer as they descend so as to be almost completely absent in the large intestine, the bacilli coli are, on the contrary, so abundant in the colon that it has been computed there are from twelve to fifteen thousand millions evacuated with every fecal discharge Professor Gilbert's chronicler in the *Medical Press* says that these conditions easily explain how the skin and the mucous membrane of the genital organs can be contaminated by this microbe, how they can be met with in milk, or on clothes, on the ground, on plants and in water It is also easy to understand how the bacillus coli can penetrate into the organism of the new born infant, its mouth coming in contact sometimes with the fecal matter of the mother, the milk can also be the channel of infection and it is thus that at the very *debut* of its existence the infant lodges in its digestive tract this microbe which will never quit it Later on the bacilli coli enter the system by the water we drink and the vegetables we eat, which have perhaps been watered with fecal matter

Society Notes

The Medical Society of the Missouri Valley will meet at Sioux City Iowa March 21 1895 at [illegible] An interesting program is promised ——The third regular meeting of the Albany County (N Y) Medical Society was held at Albany February 27 —— At the annual meeting of the Anne Arundel Md Medical Society the following officers were elected for the ensuing year President H P Gantt, Vice President [illegible] Winterson, Recording Secretary [illegible] Corresponding Secretary C P Henkel ——A regular meeting of the Cincinnati Academy of Medicine was held March 7 The following officers were elected for the ensuing year President S C Ayres, First Vice President K B Hall Second Vice President C K Holmes Corresponding Secretary [illegible] Johnson Librarian, J C Culbertson ——The Belmont County, W Va Medical Society held a regular meeting March 2 ——The McLean County, Ill, Medical Society held a regular meeting at Bloomington, March 1 ——The Falls City Medical Society met in Louisville Ky March 7 ——The Association of Military Surgeons of Illinois will hold its next annual meeting at Springfield, on March 20 1895 ——The New Haven, Conn, Medical Society held its regular meeting March 6

Hospital Notes

The New York Orthopedic Dispensary and Hospital—This institution is about to receive a donation of $[illegible], under the will of the late James F [illegible] ——According to Pittsburg papers of March 7, the Hospital Staff Association of Western Pennsylvania has decided to admit homeopaths on equal footing with regular practitioners ——The annual meeting of the board of directors of the Bethany Hospital Kansas City, Mo, was held March 1 ——The annual report of the Mercy Hospital at Pittsburg Pa, shows that 2,015 patients were treated during the past year The capacity of the hospital has been increased by the addition of the new annex, which cost $35,000 ——The fourth annual report of the Cincinnati Ophthalmic Hospital shows that 177 patients were treated in that institution during the past year ——The monthly report of the New Orleans Charity Hospital shows that 1,598 patients received treatment during the month of February ——At the annual meeting of the St Louis Deaconess' Home and Hospital, held March 6, the old board was re elected A flat adjoining the hospital has been rented to give accommodation to the friendless women who apply for shelter, until their cases can be investigated ——A meeting of the committee of the Country House of the Montefiore Home in New York, for Incipient Cases of Consumption, was held March 5, and a sub committee was appointed to confer with the Medical Board of the Montefiore Home concerning the selection of a site for a new building

Louisville Notes

The Medico Chirurgical Society met Friday, March 8, the guest of Dr C W Kelly

Pure Food Exposition—This exposition was inaugurated during the past week The booths occupy the entire second story of Music Hall, and are draped in gay colors Across the hallway from the booths there are given daily, lectures upon cooking by Mrs Dearborn, late Principal of the Boston Cooking School

Physicians Organizing for G A R Encampment —A meeting, by invitation of the chairman Dr W P White, of the physicians of Louisville, was held in the rooms of the Citizens Committee of the G A R on the 8th inst Dr Samuel Garvin was elected chairman and Dr Henry E Tuley Secretary Dr White addressed the meeting and stated that the object of his invitation was organization He said "the medical department shall be charged with the duty of arranging for the care of all visiting Grand Army veterans who may need medical attention, securing for the purpose the use of established hospitals and, if necessary, other suitable quarters The medical division shall detail physicians who shall be on duty at these hospitals during certain hours, for the purpose of giving patients such treatment as may be needed, shall provide such ambulance service as may be required, and maintain good sanitary conditions in all barracks and hospitals, that may be in charge of the Citizens Executive Board It was then decided that the chair appoint a chairman from each of the twelve wards in the city, and that he, in conjunction with the other physicians in his ward, shall constitute the medical department The Secretary, Dr Tuley, read a letter from Dr C C Wiley to Dr White, in which he described his methods of handling the medical department during the twenty eighth encampment in Pittsburg—and which conveyed many valuable suggestions It is pleasing to note the willingness of the Medical Department of the local G A R organization to do their duty during the encampment in the city Sept 11, 1895

Smallpox —Owing to the impossibility of the Secretary of the State Board of Health receiving satisfactory reports from Lexington in regard to the smallpox epidemic there, he investigated for himself Dr F O Young, President of the local Board of Health, issued a report that in all there had been thirteen cases in the city Three recovered before a pest-house was secured, and only ten were sent to the pest-house It was his belief that the disease was well under control Dr McCormack found the above report substantially correct. There were sixteen cases in the pest-house, one new one was sent there during his visit All were doing well save one which was expected to die Two cases were quarantined in private houses in the city None but colored persons have been attacked, and the epidemic is much milder than the reports would lead one to believe

Louisville Medical College —The twenty-sixth annual commencement of this institution was held March 8 Estelle Victor Wedding, of Kentucky, delivered the salutatory address The graduating class numbered thirty eight and prizes were awarded to the undergraduates

Washington Notes

Medical Society of the District —At the meeting of the Medical Society held on the 27th ultimo, Dr S O Richie read a paper entitled "What is the Significance of Oxalate of Lime in the Urine?" Dr Harry A Robbins read a paper on "Cerebral Syphilis," and Dr W W Johnston presented specimens and gave the history of a case of cancer of the descending colon, and tuberculosis of organs from Trudeau's laboratory, Saranac Lake

At the meeting of the Society held on the 6th inst, Dr George M Sternberg, U S A, read the essay of the evening, entitled "Explanation of acquired Immunity in Infectious Diseases" The paper was very instructive, and the discussion was opened by Dr Salmon Dr Walter Reed, U S A, presented a specimen of subcutaneous myolipo fibroma kidney, with double ureter, miliary abscess and hypertrophied bladder Dr Lamb presented a specimen of tubercular larynx

Washington Obstetrical and Gynecological Society — The two hundred and twenty-fourth meeting of the Society was held on the 7th inst Dr M F Cuthbert read the essay of the evening, entitled "Some Unusual Cases of Labor" The reported fifteen cases, one of which was a case of chin presentation with posterior rotation, successfully delivered with forceps Dr F S Nash read a paper on "Report of a Case of Prolonged Retention of Pessary" The pessary had been worn more or less for twenty years and not removed for eighteen months It had cut its way through the anterior fornix vagina and was encysted for two and one-half inches, requiring the use of the spoon saw for its removal The case occurred in the service of Dr H L E Johnson at the Emergency Hospital Dr H L E Johnson presented two cases of retained pessary, one a child's ordinary rubber ball

Central Dispensary and Emergency Hospital —The regular monthly meeting of the attending staff was held on the 2d inst The report for the month of February read as follows Number of new patients 836, number of visits 3,032, number of operations 103, number of deaths 5, number of post-mortem examinations 3, number of prescriptions 2,693

Local Bills Passed by Congress —The bill with appropriation for erecting a statue of Dr S D Gross in the City of Washington has been signed by the President and become a law The bills regarding the sale of milk in the District, removal of snow and ice from the sidewalks, requiring all persons employing female help in stores to provide seats for each female when not actually engaged, for the promotion of anatomic science and prevention of desecration of graves in the District of Columbia were passed

Health of the District —The report of the Health Officer for the week ending February 23 is as follows Number of deaths (still-births not included) White 87, colored 52, total 139, Death rate per 1,000 per annum, white 24 60, colored 31 00 total 26 71 Death rate per 1,000 per annum for corresponding week last year, 17 69 Still births White 6, colored 9, total 15

The report of the Health Officer for the week ending March 2 is as follows Number of deaths (still-births not included) White 79, colored 59, total 138 Death rate per 1,000 per annum, white 22 38, colored 35 26, total 26 52 Death rate per 1,000 per annum for corresponding week last year 26 09 Still births White 5, colored 8, total 13

Physician to the Poor —The Commissioners have appointed Dr C W Childs physician to the poor in place of Lewis Johnson, resigned

THE PUBLIC SERVICE

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending March 9 1895

Asst Surgeon T W Richards, detached from Naval Laboratory and Department of Instruction, and to the U S S "Minnesota"

Asst Surgeon James Stoughton, detached from the U S S 'Minnesota," and to the Puget Sound Naval Station

LETTERS RECEIVED

Anderson, W, San Francisco Cal

Baker, Henry B, Lansing, Mich Biddle, J G, Philadelphia, Pa, Burres, W T, Stockton, Cal Brown, A, Aniwa, Wis, Brooks, S D, Chicago, Ill

Coffman W H, Georgetown, Ky Collins, J S Carlinville Ill Crawford, H L, Junction City, Kan, Columbia Chemical Co, Washington, D C Clary Geo New Britain, Conn

Davis, Geo S Detroit, Mich, Daggett, B B, Corry Pa. Devlin, J B Denver, Colo, Douglas, Richard, Nashville, Tenn Dodge, W W, Burlington, Iowa

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Hummel A L, (3) Philadelphia, Pa, Hyde, Jas Nevins, Chicago Ill Hutchinson, Woods Des Moines, Iowa Holloway, S W, Chicago, Ill, Hyatt, B F, Delaware, Ohio Haldenstein, I, New York, N Y

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The Journal of the
American Medical Association

Vol XXIV CHICAGO, MARCH 23, 1895 No 12

LECTURES

LECTURES ON INTRACRANIAL SURGERY

II —MENINGEAL HEMORRHAGE AND ITS SURGICAL TREATMENT

BY EMORY LANPHEAR, M D , Ph D
ST LOUIS MO

Since Macewen, in 1879, opened the skull of a boy and removed two ounces of fluid and coagulated blood from beneath the dura in the lower part of the Rolandic area, with recovery, operations for meningeal hemorrhage have been too numerous and the results too brilliant to admit of discussion of the propriety of operative procedures whenever the site of bleeding is accessible All progressive surgeons now agree with this statement, basing their opinion upon such statistics as those of Weisemann (*Deut che Zeitschrift für Chirurgie*, 1885) which give 147 cases treated by the expectant plan, with 131 deaths and only 16 recoveries—a mortality of more than 89 per cent —while 110 cases subjected to operation gave 30 deaths and 80 recoveries, a reduction of the death rate to about 27 per cent This position assumed by operative surgeons is further strengthened by the fact that not a single death has ever been recorded from the operation itself, though a few deaths have followed from the gravity of the injury

Hemorrhages within the cranium are, in the order of their frequency, in the caudate and lenticular nuclei, in the meninges, just beneath the cortex, in the centrum ovale, in the optic thalamus, and in the pons Those occurring in the meninges are grouped as

1 Extradural—between the dura and the skull
2 Subdural—beneath the dura
3 Subarachnoidal—in the subarachnoidean space

The first variety is always due to injury and may be either rapid or slow in development The second class is closely allied to hematoma of the meninges (pachymeningitis interna) but it is claimed that the hemorrhage occurs before the formation of the investing membrane and is less circumscribed In the third variety the blood may be widely disseminated, being more or less intimately mixed with the cerebrospinal fluid it is apt to gravitate toward the base and be beyond the reach of the surgeon

The objects in view in opening the skull are

1 Locating the point of the hemorrhage
2 Removing the blood clot
3 Arresting further bleeding by *a*, location of the ruptured vessel and ligation, or *b*, the application of a tampon of iodoform gauze
4 Drainage in cases so demanding

The symptoms of meningeal hemorrhage differ according to the origin When the effusion of blood is due to the rupture of a large vessel at the base of the brain, there will be intense coma with probably no other symptom, when from a smaller vessel there may be such prodromata as giddiness, headache and vomiting, coma still being pronounced if of basal origin As a rule it may be said that in cases of suspected meningeal hemorrhage other than at the base of the brain, convulsions rather than paralysis constitute the marked symptom So too, it may be broadly asserted that when symptoms of cerebral trouble of any character make their appearance some hours after an injury to the head, the probabilities are so strongly in favor of meningeal hemorrhage as to justify opening the skull at the point of injury if known—if not, then at the location of the middle meningeal artery, for a blow upon the skull may cause a laceration of some intracranial vessel giving rise to immediate symptoms of acute hemorrhage, or it may result in a slow "secondary" hemorrhage with gradual supervention of the symptoms Illustrative of the first kind, I quote the following from my case records

Oss S , colored, aged 35 on Dec 1, 1891 was found unconscious upon the street at 9 P M and carried to his home where he was seen by Dr F von Quast at 10 P M A diagnosis of *rupture of the middle meningeal artery* was made and at midnight I was called to operate The *symptoms* then were profound unconsciousness frequent and severe convulsive movements of the right arm and leg, dilatation of the pupil, stertorous respiration and temperature of 102° degrees Examination showed no evidence of fracture nor even of bruising of the scalp Assisted by Drs von Quast and C H Adams, I opened the skull over the region of the middle meningeal artery Upon uncovering the vessel a complete rupture of the artery was found, the spurting being resumed as soon as the bone was removed The end was caught without difficulty the vessel tied and a clot the size of a large orange removed This clot was extradural The space between the skull and the dura which had been occupied by the clot was washed out, iodo*form* gauze drainage inserted and the scalp sutured and dressed with sublimate gauze *After removal* of the clot the brain did not return to its normal position—so an opinion was given that death would be the result inside of twelve hours He died at 7 A M

The autopsy showed degeneration of the vessels probably syphilitic Complete collapse of the ventricles had occurred from pressure of the clot and there was a very marked anemic condition of all the intracranial structures

I am of the opinion that this man's life might have been saved had trephining been possible soon after the accident, before the clot became so large as to produce the excessive pressure upon the vital structures

Illustrating the second class of cases, I take this record from my note book

Tod K , aged 13 years, fell and rolled down a bluff, a distance of sixty-five feet, striking upon his head The accident happened at 11 A M , May 16, 1891 He was not unconscious when conveyed to his home and a physician declared his wound not a serious one, washed the lacerated scalp and applied an antiseptic dressing At 1 P M , the boy began to become drowsy and vomited repeatedly At 2 P M , I found him almost unconscious, pulse very weak, skin of a purple color and "shock" pronounced There was a cut in the scalp about two inches long to the left of the median line, just behind the parietal eminence, but no indication of fracture At 8 P M , with the assistance of Dr John Wilson, I enlarged the opening in the scalp and turned back a flap, revealing a fracture of the parietal bone, with a slight depression two inches across The fracture had been hidden by the scalp's slipping over it and by the boggy swelling of the soft parts A small opening was chiseled and an elevator introduced, but the depressed bone could not be thus raised, so the hole was enlarged Much blood came away at this time, and there was considerable bulging of the brain through the opening, the protruding matter being pulseless A sharp fragment of the vitreous plate was found projected through the membranes into the brain tissue Upon raising the depressed bone into position and slitting the dura, a large subdural clot was readily removed, allowing the brain to resume its natural position, pulsation at once returned in it and simultaneously the purple hue of the skin began to fade The clot came from a tear in the posterior branch of the meningeal, to prevent further mischief the vessel was tied with catgut carried around it by a curved needle All clots and fragments having been removed, the wound was irrigated with hot water, the cut in the dura closed with fine catgut, a small strip of iodoform gauze placed next to the dura and allowed to protrude through the scalp-wound for drainage and catgut sutures introduced through the scalp, with bichlorid dressings At 10 30 P M the temperature was normal, there was no pain, the patient was bright and cheerful May 17 at 3 P M the condition was excellent —pulse 90, temperature 99½ degrees On May 18, I removed the drainage and applied a permanent dressing of sublimate gauze, there being no indication of pus formation Convalescence was uneventful, the wound healing by primary union and the patient being discharged May 31, entirely well There has never been any evidence of trouble since

As I have already stated, the symptoms following an injury may occur soon after the accident but more often appear gradually, the bleeding slowly continuing until either the tension checks it by pressure or a fatal compression is induced Bauduy, of St Louis, describes the latter as "progressive extradural hemorrhage," a variety that is often mistaken or escapes us, it is commonly due to a blow upon the head with a blunt instrument, like a sand-bag, or a fall upon the head The dura may be detached from the inner surface of the cranial vault and a slow hemorrhage occur which does not necessarily come from a rupture of the meningeal vessels or even of their small branches The bleeding has its source in the laceration of the small vessels which everywhere pass from the dura to the bone As the blood, little by little, escapes, the dura is gradually pushed away from the bone and the collection increases in size until symptoms of compression gradually supervene, after a period of many hours the patient becomes soporose and finally comatose It should be remembered that all this may occur without fracture or even external contusion

The only case of this kind I have operated on is this

Charlie S, age 10 years, was brought to my clinic Oct 3, 1892, by Dr A J Kelley, who had been consulted on account of a partial blindness, a headache and gradually increasing drowsiness of the boy The father said the child was struck upon the right side of the head nearly three weeks before (the mother said it was only a week) with a board in the hands of a playmate, that he was unconscious for a little while and vomited, but resumed his play, complaining of nothing but the soreness of the "lump" which appeared where he was struck For several days (exact time not obtainable) he showed no signs of trouble, but finally became indisposed and said he could not see well, a few days later occipital headache appeared and a stupor came on from which he could be aroused only with great difficulty At the time of examination there was bilateral hemianopsia (blindness of corresponding sides of both eyes) of the left side, slight ataxic gait, sluggish pupils, and a tendency to sink into a stupor from which he could, with some effort, be aroused for a time

There was no external evidence of injury Recognizing the danger of delay, I operated within an hour after examination, assisted by Dr Kelly and a student, opening the skull over the middle occipital convolutions—the point indicated by cerebral localization, and corresponding nearly to the place designated by the parents as the spot injured Upon removing the button, a lot of half clotted blood bulged from the opening The quantity expelled was so great that I feared there had been an injury to and subsequent leakage from either the lateral sinus or the superior longitudinal I therefore very cautiously removed the blood with a spoon and pieces of gauze No source of the hemorrhage could be found, but a little oozing continued after irrigation So I packed the wound (not very tightly) with iodoform gauze, closed the external cut except at the point of protrusion of gauze, and dressed antiseptically There was no injury to the dura Reaction was prompt and satisfactory The temperature rose to 100 5 degrees on the second day but fell by the evening of the third, when the drain was removed No more bleeding had occurred, but a few strands of catgut were inserted in the dura to continue drainage for a short time All bad symptoms disappeared upon removal of the gauze packing Convalescence was rapid and the boy was still in excellent health some months ago, although there is still pulsation at the point of trephining

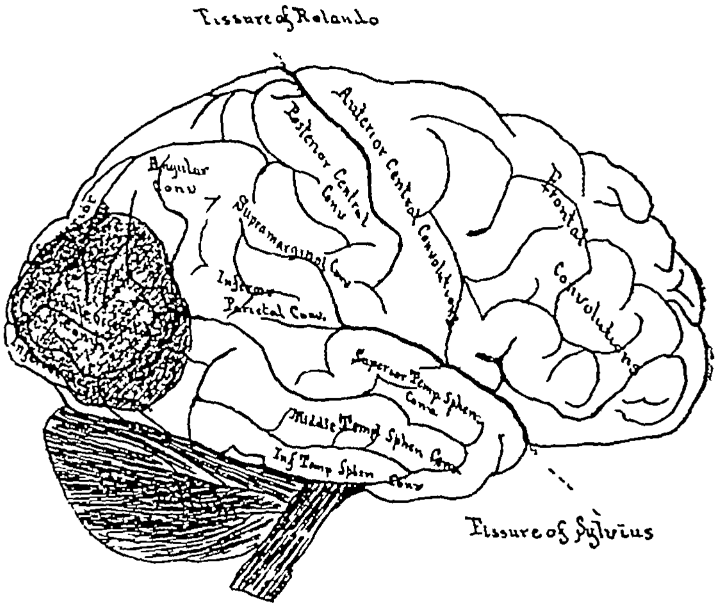

Diagram showing location of the clot

This diagram represents the location of the blood, the dark area showing its approximate extent About three tablespoonfuls of blood were removed

Ransohoff, of Cincinnati, has noticed that in addition to these symptoms of hemorrhage there is a high specific gravity of the urine (1030 to 1040) with the presence of sugar

In some non-traumatic cases it will be impossible to make a diagnosis between meningeal and cerebral hemorrhage, though the differentiation can sometimes be made But even if one be certain in the diagnosis, operation is not to be made if the heart's action is much affected in its rhythm, depressed, the respiration irregular and swallowing difficult—the difficulty is probably of the subarachnoidean variety with involvement of the pons and medulla, trephining would be useless

Small clots upon the convexity usually cause convulsive movements, but they may also produce monoplegia, amnesic or ataxic aphasia, hemianopsia, etc, in which case location of the lesion is easy, particularly if the patient be within one of the periods of life especially prone to this form of hemorrhage, viz below 10 years or over 50 years, it being generally acknowledged that the veins as well as arteries are very liable to rupture when young children are injured in the head, while in the elderly, atheroma predisposes to the same accident In a large proportion of cases as the cause is an injury the condition can be recognized readily

When there is an injury the wound indicates the site for operative procedures If there be no external guide, dependence must be placed upon localizing signs, providing they be sufficiently positive Otherwise in suspicious cases one is justified in opening the head over the region of the middle meningeal artery which, according to Treves, crosses the anterior and inferior angle of the parietal bone at a point one and one half inches behind the external angular process of the frontal bone and one and three quarter inches above the zygoma The center-pin of the trephine should be inserted one and one half inches behind the external angular process and one ich above the zygoma Should the hole show no emorrhage it may be enlarged upward and backard, or a second button may be removed just below he parietal eminence, this point being over the posteior branch of the artery

The time of selection for operation is not later than ighteen to twenty-four hours after the hemorrhage, nd yet the surgeon should not hesitate to operate much later than this, since the clot may remain for months, as in the case reported by McBurney, of New York, in which he trephined four months after the njury and removed a clot which was still unabsorbed and causing trouble—securing a favorable result

If the patient be unconscious no anesthetic is necessary The method of opening the skull must depend upon the instruments at hand or the operator's choice between the trephine, the mallet and chisel, and the gouge and rongeurs The clot when discovered should be removed by the fingers or forceps and the irrigator allowed to flow into the cavity for a minute or two, so that all remnants of blood may be washed out and any bleeding vessel uncovered If a ruptured vessel be found in the dura, it must be ligated by catgut passed beneath it with a curved needle, and tied securely If the main artery in the bony canal be the source of trouble, the bleeding may usually be controlled by punching with the sharp end of the handle of the bone forceps, in extraordinary cases it may be necessary to crush the bone upon the vessel by strong sequestrum forceps Vessels in the pia and beneath, like the Sylvian, can be readily caught by passing a fine curved needle beneath, carrying a catgut ligature for tying Not much force should be used in ligating vessels in this location for the reason that they rupture very easily under even moderate strain When a general oozing is found, or hemorrhage from points not accessible, the only method to pursue is to pack with iodoform gauze, then close the scalp wound and apply a firm compress over all, the tampon should be removed in thirty six to forty-eight hours

In conclusion, I give you this summary, under the heading of

RULES FOR TREPHINING

When to Operate—1 An injury to the head, followed after a little time by marked cerebral symptoms, imperatively demands trephining at the point of injury if known, if not, then over the middle meningeal artery of the affected side

2 In progressive or extradural hemorrhage—caused by a fall on the head or a blow from a dull instrument like a sand-bag—if symptoms of compression appear after many hours, or even days, there being no fracture or contusion as a guide, it is proper to open the skull over the middle meningeal artery, if no trouble be found there, then over the posterior branch

3 Cases of "compression" or "concussion" without localizing symptoms or external evidence of injury should be subjected to exploration if there be no return of consciousness within eighteen hours at the farthest, upon both sides if necessary

4 Giddiness, headache and vomiting with stupor and convulsions of one side, may be due to meningeal hemorrhage, exploration is permissible

When not to Operate—1 When the heart's action is depressed, respiration irregular and swallowing difficult, the hemorrhage is probably subarachnoidean and operation can not be of benefit

2 In cases dependent upon fracture, if blood be discharged from the mouth or ear there is basal injury and the justifiability of operation is questionable

ORIGINAL ARTICLES

SOME POINTS PERTAINING TO THE PRESENT PATHOLOGIC AND THERAPEUTIC STATUS OF DIPHTHERIA

BY I N LOVE M D

ST LOUIS MO

It will be admitted that until recently the management of diphtheria upon the part of the medical profession as well as many other diseases has been empirical Since the definite cause of this disease has seemed to be established, we have been able to work more intelligently in our treatment It must not be forgotten, however, that able men in the profession do not yet accept the germ theory of disease Among the number so great a man as Dr Lawson Tait affirms his disbelief He is of the opinion that these organisms abound and multiply under two conditions or states—decomposition and disease He thinks their presence is incident to but not causative of disease To illustrate his idea, he presents the homely illustration of the dead animal under the mid summer sun The prolific development of tissue destroyers in the form of maggots from microscopic parasites does not demonstrate to him that the maggots had anything to do with the death of the animal, but that the vitality of the latter, having been reduced to zero, the maggots, germs and spores utilize the opportunity for vital development upon their own part He with others, believes that the various organisms operating under the conditions of disease and decomposition, attempt to act as scavengers for the removal of effete matter and perverted secretions and excretions rather than as the causes of morbid conditions Discussing this subject before the Birmingham Midland branch of the British Medical Association last October, Mr Tait threw hot shot against the germists by citing the difference of opinion among dermatologists regarding the parasitic origin of eczema, he quotes many of their best observers who believe that it is of neurotic origin and that microbes have nothing to do with it He aptly says that if we can not settle upon the germ as being the cause of a disease so superficial, so exposed to view, so universal and so open to study as eczema, that there are few cases where it is capable of settlement We can many of us sympathize with Tait when he says "I entered my college career just as the grand sweep of the cellular pathology was careering over the medical world Everybody was mad after a new cell Special courses and special teachers were told off for cellular instruction Our microscopes had got so far as to unriddle the facts of cellular construction, and therefore there must be a cellular pathology which was to explain everything Two parties existed and they fought bitterly, the only real and permanent effect being that the unhappy student had to meet two sets of examiners and to know two sets of answers to the same questions, the one to be given as the wind blew from the east, the other as the turn of the west wind came The cellular party apparently triumphed, but it has silently and mysteriously disappeared, so that we may ask with Hans Breitman "Where is dad barty now?"

In his paper, Tait refers to a contribution of Dr Leslie Roberts in a recent number of the *British Medical Journal* on the pathology of vegetable hair parasites, and remarks that it interested him greatly because it was a phase of the dermatologic investigation getting as near the laboratory flasks as seems possible Tait makes a note of the lack of unity of opinion on the part of dermatologists, with reference to the pathology of vegetable hair parasites He suggests that from a bacteriologic standpoint they are no further advanced than botanists were in the times of Gussieu and Linnæus, and that the philosophical revolution affected by Darwin has not yet reached them, and refers sarcastically to the amount of drivel that is made to center around the culture tube He very tersely says "What should we say if an investigator provided to classify the trees in an orchard by the shape of their branches or the color displayed by their fruit?" He says logic can not change with the size of the objects or with the apparatus and manipulation He decries the rapidly appearing successive memoirs which are self-contradictory and which are objectionable and unusual in scientific research, and suggests to us all the necessity of reserving judgment Indeed he says, many of the opinions maintained so strongly regarding bacteria have passed into medical currency with very little inquiry on the part of those who have reached them He says their work is carried on without regard to the first principles of Bacon and with an utter disregard to the teachings and examples of Darwin "The very fundamental thoughts of the evolutionary school of biology are brushed aside, and the great text-book of Sachs might as well have never been written"

Tait criticises the application of Pasteur's law which he so wonderfully illustrated in the process of brewing and wine fermentation, which were of such enormous financial value to the interests involved, as not being applicable to the human body, and says that Pasteur was responsible for leading wildly astray many young doctors who had never studied Bacon and were incapable of grasping the fact that while the former might be wholly right in the brewing vat, it required a re-arrangement of the syllogisms to carry the argument to the human body For instance, take ten thousand human bodies all perfectly alike, as far as we can see, and drop your germs of typhus about and see what will happen The first remarkable fact to be found is that if the bodies are in Birmingham there will probably be no effect at all If they are in Edinburgh, no effect, or very little will be seen in the new town, whereas in the old town some commotion will result and there will be about a hundred cases of typhus These will be distributed in various centers with mathematical proportion, and probably no two cases will be exactly alike Clearly then, according to Bacon, the provocative cause lies not in the germs

We can not ignore some of the bacteriologic perplexities which confront us, however loyal we may be to the germ theory

1 Pneumococci may exist in the air passage without producing pneumonia

2 The bacilli coli (which are constantly at home in large numbers in the large bowel) are believed by some to be essentially the same as the typhoid fever bacillus of Eberth and to develop the same biologic and pathogenic characteristics when the soil is favorable Indeed it is freely stated that the Klebs-Loffler bacillus is often found among the many scores of bacteria infecting apparently healthy mouths

In a recent paper Bleyer says "To-day we know with almost absolute certainty that there are two forms of diphtheria, which to the eye of the clinical observer present similar changes in the mucous membrane, inasmuch as both are characterized by the appearance of a pseudo membrane, at times dirty white, often tinted greenish or yellow white in color Viewed at the bedside alone, in both you will observe alike, prostration, a febrile condition, swelling of the submaxillary glands, disturbance of respiration often slight it is true, so that a differential diagnosis, clinically, is a qualification to which few of us can lay claim Notwithstanding this, the two are totally dissimilar Examined bacteriologically, the exudate of one will reveal nests of bacilli which are found only in the exudate of true diphtheria, while in the other there are no bacilli, but instead the so called staphylo- and streptococci The first variety is highly fatal, statistics showing a mortality of almost 50 per cent, while the second, so far as danger to life is concerned, is comparatively harmless" In this latter statement he is wrong, for even these causes may produce fatal blood poisoning

Skigo reports several cases which he met with during an epidemic of diphtheria where the tonsils were covered with disseminated spots of exudate the size of a pea, and he tells us that there was absolutely no clinical indication by which he could differentiate the cases which ran the violent course of true diphtheria, and those which took the milder course

Morton examined 200 cases of diphtheria that had been diagnosed by that eminent clinician, Simon of Paris, and found in only 137 of these the Klebs-Loffler bacilli, 43 of the remaining 63 cases proved to be tonsillitis, 13 proved to be croup of which 12 got well without operation, 7 cases proved to be diphtheria with croup, 6 of which developed the bacilli after the operation of tracheotomy had been performed and which Morton says had been due to hospital infection

In recent investigations made by Park, in the New York Orthopedic Hospital, where the children seem specially liable to attacks of follicular tonsillitis and enlarged tonsils, culture experiments were made and in some instances pure cultures of the typical Klebs-Loffler bacillus were found in fair abundance and in others they were scanty Though the soil was favorable, the bacilli found were evidently not of a virulent character, and from these reports, Chappell, in the *New York Medical Record*, observes that until these causes were examined, he had supposed that Klebs-Loffler bacillus found in a sore throat meant diphtheria, whether the clinical history and evidence supported that diagnosis or not He concludes that at present writing it seems there are three possibilities

1 Clinical phenomena of diphtheria without Klebs-Loffler bacilli

2 Clinical phenomena of diphtheria with Klebs-Loffler bacilli

3 Kelbs Loffler bacilli without any clinical phenomena of diphtheria

If it be true that diseases attended with the formation of the pseudo membrane of the throat due to other causes than the Klebs Loffler bacillus are not followed by the well known sequelæ of diphtheria, then the term diphtheria, should not be applied to them The term, diphtheria, has in the past been freely applied to this form, but I think it is a misnomer The name diphtheroid, which was first applied I believe by Dr Lester Hall of Kansas City, is much more appropriate, as it expresses the thought that the disease is like diphtheria

It is said that there is no germ that is so variable in its virulence as the Klebs Loffler bacillus, (but all forms of life vary in their degree of lustiness) and this may account to some extent for the difference in severity in cases of diphtheria, we are all aware of the fact that there is a great variation in the virulence of all epidemics, whether it be due to atmospheric or other causes, has not been fully established Another element of confusion to the practical physician is the statement that the pseudo bacillus found in diphtheria does not vary in any way microscopically from the true Klebs Loffler bacillus If this bacillus and others may vary so materially in their lustiness, in their ability to make their way in the world from time to time, may they not also vary in their general appearances to a like degree, and thus create confusion as regards microscopic diagnosis?

In a recent discussion, Dr C H Johnston, of Grand Rapids, Mich , says he can see no good reason for considering these so called pseudo bacilli as other than true diphtheritic germs, which if planted upon suitable soil may give rise to the most severe forms of diphtheria

The many conflicting facts presenting themselves to us, may, if they do not prompt us to ask ourselves pathologically, "where are we at?" at least make us hesitate in insisting upon the making of a diagnosis based only upon microscopic demonstrations Indeed, in spite of the brilliant light which has been thrown upon the subject from the intellectual lamps of many of the best men of the profession the world over, there is reason for our not being entirely absorbed in our study of diphtheria as well as other diseases, by the microscopic and bacteriologic evidence to the exclusion of the bedside clinical evidence

While personally I am disposed to accept the germ theory, particularly as applied to the infectious diseases, and probably to far more than have yet been discovered, yet I still believe most firmly that there are many diseased conditions dependent upon other things than germs and that clinical facts are stubborn things

Every true physician never ceases to be a medical student, and he needs to guard himself against too readily accepting the dictum of those whom he may recognize as the masters of the profession The views of Lawson Tait and the many other able workers of the medical world are worthy of consideration, worthy of being weighed in the balance I have great respect for the opinion of any man who has given evidence of being an earnest, honest student in science no matter what his views may be Our own Dr Wm Johnston, one of the Nestors of the medical profession of St Louis, one of the most indefatigable delvers in the field of literature, medical and general, when he antagonizes the germ theory of disease, we must remember is in very good company and his views are worthy of our most profound attention At the same time the younger workers in the scientific vineyard who spend most of their time looking through the small end of a microscope and into the depths of test tubes, mingling with laboratorial outfits, should have a care lest they develop an intellectual myopia which will preclude their appreciation of the importance of bedside observation of clinical evidence They should each and every one remember that bacteriology is not all of the science of medicine, and that the bulk of medicine is art rather than science, and other things being equal, the careful student of human nature the close observer and the energetic worker in the sick room, after years of experience is often far more competent to make a diagnosis of a given disease by clinical evidence alone than they, with their microscopes and culture tubes, without such knowledge and experience Who of us who have listened to the able and forceful words of a venerable teacher of surgery in St Louis, his teachings based upon knowledge gained from reading not only books but the symptoms of disease, would not as soon accept his dictum with reference to a tumor, its benignancy or malignancy, its necessity for removal, as the most expert microscopic opinion taken alone

Any physician of experience worthy of the name, can make a diagnosis of pulmonary tuberculosis on the clinical evidence alone, and bring the microscope to his aid only for confirmatory purposes But the true physician is ever receptive and unprejudiced whether in the sick room or the laboratory—he who knows it all generally knows very little

Like syphilis, diphtheria is probably primarily local, as it can be inoculated upon a denuded surface, but like syphilis, general in its effects, it so promptly affects the system at large that the removal of the infected point by the cauterization of the membrane in the one case or the excision of the primary chancre in the other, will not prevent constitutional systemic poisoning Time was, when in an empirical way, physicians immediately attacked these exudates in the air passages with violent caustics, often doing greater injury to the surrounding parts than to the invading membrane

As syphilis has been in modern times greatly modified and its asperities softened by the recognition of the importance of local cleanliness and the securement of favorable constitutional conditions, so I believe may diphtheria A suitable soil with depressed constitutional conditions, in other words a dirty suppurating neglected angina (as in scarlet fever, acute tonsillitis or quinsy) with perverted secretions throughout the alimentary canal, an already existing blood poisoning produced by the numerous streptococci and staphylococci present in the faucial field, presents conditions favorable to the development of the most brutal and lusty Klebs–Loffler bacilli imaginable

One should hesitate long before relinquishing many of the valuable measures which have stood the test of time, and accepting the newer therapeutic suggestions, even including that of Behring, for he undoubtedly originated and developed the antitoxin treatment of diphtheria Roux, who is a skilled bacteriologist, and presented remarkable results in a definite manner at the International Congress of Hygiene at Buda-Pesth last summer, freely accords the credit of this discovery to Behring The literature that has been presented during the past few months in favor of the blood serum therapy as applied to diphtheria, is enormous, and no candid careful observer can ignore the fact that the great bulk of it is favorable

Nearly a hundred years ago, Edward Jenner presented to the world the original thought in the direction of treating disease in man by a product from a lower animal which had previously been acted upon by the same disease In other words, Jenner's application of vaccination for smallpox was the first move in the direction of the blood serum therapy, for we have no reason to doubt that vaccinia on the udder of the cow is probably primarily the result of smallpox introduced into the same animal It is true that the workers in this field are now moving along scientific lines and not empirically as did Jenner, and yet he stands an example to all scientists whether they be bacteriologists or bedside physicians, illustrating the thought that in the study of symptoms, the grasping of facts, the application of them, clinical work is after all one of the best means of demonstration in the hands of the physician It will be remembered, too, that Jenner did not publish to the world his work until he had elaborated it, perfected it, and extended it over a period of twenty-five years

The best report of the antitoxin treatment of diphtheria has been through the United States Marine-Hospital Service Surgeon-General Walter Wyman having delegated Surgeon J J Kinyoun, a skilled bacteriologist, to visit the Pasteur Institute and study thoroughly the work of Prof E M Roux, he presents his official report in the weekly abstract published by the Marine-Hospital Service under date of Oct 20, 1894, and it is indeed the most succinct and reliable article upon this subject that has yet appeared Too great credit can not be given Surgeon General Wyman and his subordinate, Dr Kinyoun, for the report The essence of the conclusions made by Dr Kinyoun are contained in the following "The results obtained by Professor Roux in the treatment of cases of diphtheria are so astounding, that one is almost compelled to ask one's self, 'Is this possible?' but when the methods are known and the array of statistics are given, there can hardly remain a trace of doubt The future possibilities in this direction can not be over-estimated as we have in the serum the almost absolute preventive of epidemics of diphtheria "

The great Virchow was for a time opposed to this method, but in a recent meeting of the Berlin Medical Society, he publicly announced that he had to yield to the brute force of unanswerable facts A full opportunity was furnished for the comparison of results in a large number of cases in Berlin, when treated with and without the blood serum Hausman, Virchow's assistant, still opposes the blood serum, but as yet there has appeared no presentment of facts upon which to base his opposition, at least it has escaped my observation The reports from London, France, Berlin and upon this side of the water, are in the affirmative The government of France has given to Roux its highest honors in recognition of his work

And now what shall be said of the present general application of the blood serum therapy? First of all, the remedy is enormously expensive The animal best adapted for its development is the horse, and the time required is not less than six months This practically places it beyond the reach of the great masses If the serum treatment is to become general, then comes the important question, and it is a difficult one, what arrangements are to be made for protecting the community under sufficient and proper guarantee with the material for this treatment? Surely the same arguments would apply in favor of this prophylactic measure (for such it is, as well as a remedial agent) being placed under the control of local boards of health, the same as in vaccination for smallpox It is to be supposed that health boards have definite knowledge and supervision of the vaccine farms which furnish vaccine virus to the respective communities, and they should have similar supervision over the laboratories where the blood serum is developed The health boards should know that properly healthy animals are secured, those of proper age, and that the proper sanitary and antiseptic precautions are exercised in the establishment Even granting that the blood serum therapy has proved its case, until it is available, and even after, we must not lose sight of other remedies which have after long service proved of value, for there can be no doubt that considering the fact that the antitoxin antagonizes only the Klebs Loffler bacillus and not the streptococcus and staphylococcus and other pyogenic microorganisms, we are never safe in ignoring our old therapeutic friends in favor of the exclusive use of the new Reviewing the amount of confusion that exists even among bacteriologists regarding the definite cause of diphtheria, and the different kinds of diphtheria, and the like confusion and uncertainty pertaining to the blood serum therapy, and our inability to make it generally applicable to mixed infections, we are justified in the exercise of the extremest caution in its application

Diphtheria poison is tenacious of life and may be transported indefinite distances The disease is always more or less present in crowded communities, possibly inhabiting permanently the sewerage systems of cities Laboratorically demonstrated, the Klebs-Loffler bacillus is admitted to be found in seemingly healthy mouths frequently A large number of the children in every community at certain seasons of the year through the medium of follicular tonsillitis, enlarged tonsils and catarrhal disturbances of the air passages, and scarlet fever angina, present themselves as standing invitations to diphtheria A bacteriologic demonstration of true diphtheria requires twenty-four or forty-eight hours Remembering all these facts, every case of sore throat should be isolated and treated as a suspect While in no case acting as an alarmist, the physician should be a guarder and a protector of his patients, and should from the beginning inform the family of the possibilities of any sore throat developing into a diphtheria

The foregoing being true in every case of sore throat, the treatment from the first should be antagonistic to diphtheria, locally and constitutionally, no matter how benign it may appear, no matter whether the Klebs-Loffler bacillus be suspected or discovered Every case of sore throat should be treated in a cleanly way and every hygienic rule should be observed The ideal treatment for tonsillitis, the angina of scarlet fever and la grippe, which may be classed under the head of suspects, is a favorable preliminary treatment for any case of diphtheria, and this is briefly, a prompt purging of the patient, emptying the intestinal canal for future service as a food tract, the administration of local applications which serve as soothers and cleaners of the disturbed mucous membranes and are as nearly germicides as can be made Under this head comes hydrozone and pyrozone, which are definite strengths of peroxid of hydrogen, and if too irritating may be diluted one half This application should be followed by Listerine, Pasteurine or Katharmon, applied preferably with a hard rubber syringe, the nozzle of the same guarded by a soft piece of rubber tubing two or three inches long, to protect the throat from being wounded The keeping of the nasal passages well open by the means of liquid albolene (5 grains of carbolic acid to each ounce) protects the mucous surfaces and renders the infection at these points less probable The internal administration (from the beginning) of the benzoate of soda, in doses ranging from 5 to 20 grains, well diluted with plain water every one or two hours, according to the age of the patient, serves as a stimulator of secretions and is the best remedy for prompt reduction of a benign inflammation of the tonsils, it being equally valuable in the removal of exudations A dry engorged condition of the mucous membranes with all secretions presenting a tenacity and a disposition to stick to the surfaces, is soon changed under the saturating doses of the benzoate of soda, into a loosening of all exudations and a moist condition of all the surfaces A flow of mucous from the parts is stimulated and exosmosis rather than endosmosis is encouraged Salkowski in 1879 announced that saturated solutions of the benzoate of soda rendered the diphtheria membrane, if bathed in them, absolutely inert, so that the remedy is more or less locally antiseptic In addition to the remedy suggested, the bichlorid of mercury should be given from the beginning, starting with 1-50 of a grain or even 1 32 well diluted, to a child of 2 years, and increasing in proportion to the age, for at least twenty four hours, the same dose to be continued every two or three hours thereafter as long as the conditions call for it, unless too free a catharsis be produced Clinical facts deduced by others, as well as those coming under my own observation, are absolutely convincing that the internal use of the bichlorid of mercury is antagonistic to the toxic effect of the diphtheria poison, the same as it is to the Lustgarten germ of syphilis (if there be one) and to all other germs as well, including even tuberculosis when given discreetly, and it is a local antiseptic

Our forefathers were not far wrong when they gave calomel and other forms of mercury in reasonable doses to their cases of diphtheria, typhoid fever and cholera, but mercury is not the only remedy which has for centuries been given empirically and yet proved to be scientifically correct We have been giving opium for two thousand years as a reliever of pain, and yet we do not know how it acts, we only know that it does

The thoughtful physician should never lose sight in the management of his throat cases, of feeding, and indeed within twenty-four or forty-eight hours, having placed the alimentary canal in the best possible shape for the digestion and assimilation of food, the nutrition, in a form to be readily digested (use it predigested if necessary) and assimilated in proper quantities at proper times should be furnished, for after all, good well fed blood can repel successfully most of the bacilli and their toxins Stimulation should be ever kept in mind but not applied too soon When we recall the demoralization of the digestive tract and the nerve centers produced by the excessive use of alcohol in adults we should have a care in our administration of alcoholic stimulants to delicate children I have found a pine apple peptic wine known as Zumo Anima of great service as a stimulant Remedies, either local or constitutional should not be given so frequently or be of so irritating a character as to interfere with the digestive function or with the proper amount of rest on the part of the patient

To epitomize, then, whether the blood serum therapy be applied or not our treatment of our diphtheria cases should include a full regard for

Elimination, the keeping open of the secretory and excretory system of glands

Disinfection, local and general, of the affected surfaces, the patient and his environment, should be applied, even though the case be only a suspect and present none of the evidences of the more infectious disease

Nutrition of a character to be most promptly utilized, and nothing is better in this direction than peptonized milk, and milk has the advantage in this form of being soothing to the inflamed surfaces of the throat Ice cream made of good materials is often gratefully received by the patient and is quite digestible

Stimulation, but not until it is required for he who crosses his bridges before he gets to them makes a mistake Oats are better for the thorough bred roadster than the whip, unless the latter be used upon the animal when in the middle of a bridge which is breaking down and then the whip serves well to spur the flagging energies, and so with stimulation in disease

Tranquillization both of body and mind should be the rule from the beginning, and to this end the victim should never be given the diagnosis of his case, and no application, no remedy, nothing should be permitted to interfere with a full amount of sleep within the twenty four hours If necessary, sedatives to secure rest should be given and they should be given for an effect Small doses of a sedative often excite, whereas large ones result happily

Rest is one of the sweetest words in our language, and in the management of no disease is this more true than in diphtheria

In closing, let me insist upon the thought that in the majority of cases the microscope is only valuable for the confirmation of the diagnosis, though exceptionally it is essential to the making of a diagnosis, and whether we get our own consent to the application of the blood serum therapy or not, let us never lose sight of the proper toilet of the throat, the proper use of our accepted and well tried remedies in addition

The child with sore throat, as well as the other members of the family, should be given the benefit of the doubt, and isolated and treated always with the possibilities of diphtheria in mind

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The Forty-sixth Annual Session of the AMERICAN MEDICAL ASSOCIATION will be held in Baltimore, Md on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A M

TABETIC FOOT WITH PERFORATING ULCER (MAL PERFORANT DU PIED)

Read before the Chicago Pathological Society Dec 10, 1894

BY HAROLD N MOYER, M D
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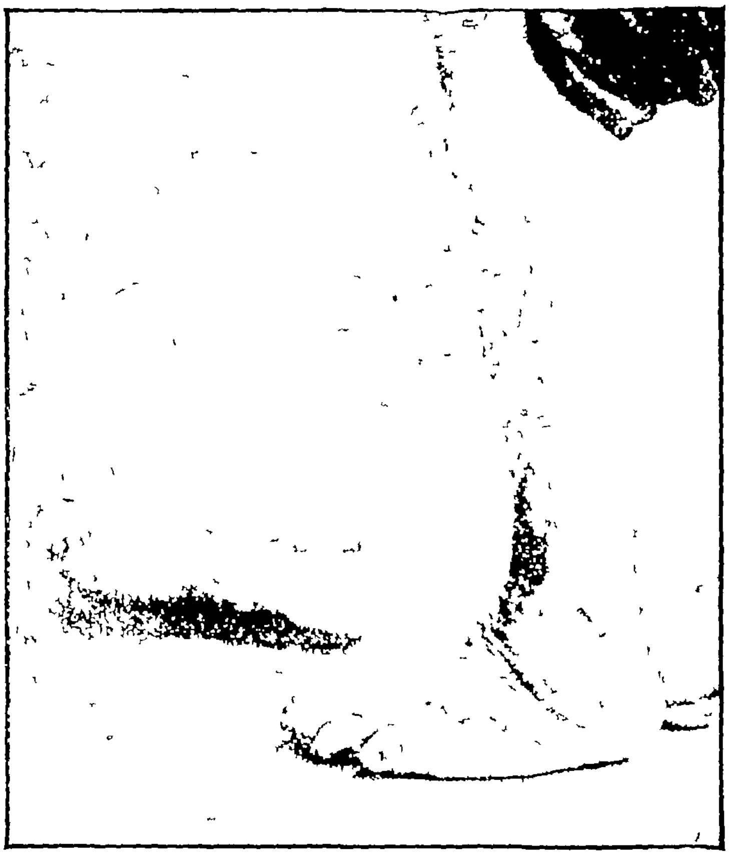
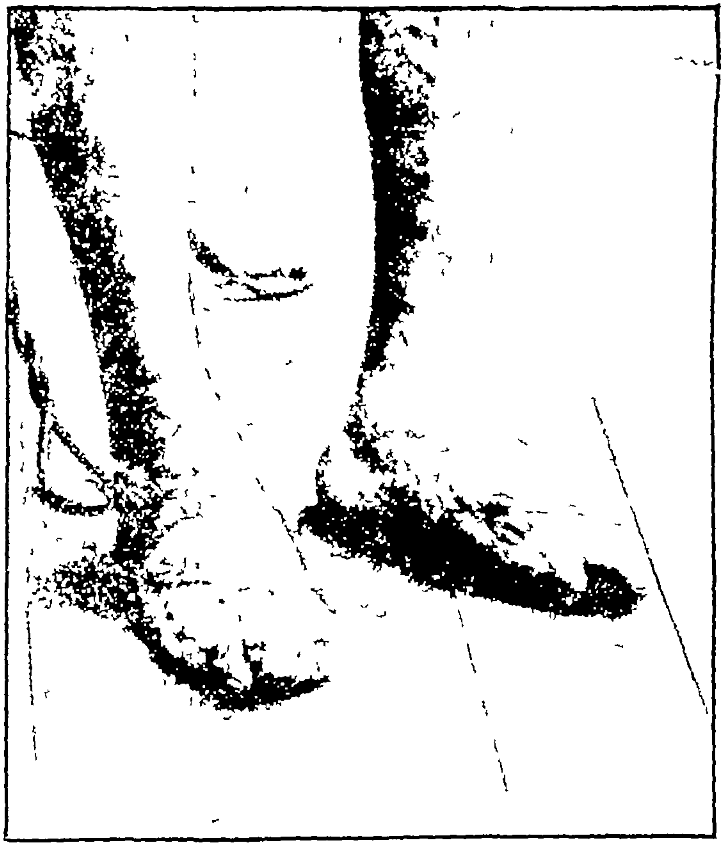
Male, 48 years of age, of previous good health and vigorous constitution, a sailor by occupation, contracted syphilis fourteen years ago Two years later an ulcer began on the right toe, at first there was some swelling of the epidermis on the inner aspect, and a bleb formed This gave way and an ulcer remained that gradually deepened until it extended in a funnel-shaped excavation to the bone After this the toe was amputated The following winter the third toe on the right foot became diseased and was removed From that time on the patient was free from all disturbance about the joints, with the exception of the gradually developing deformities, until the winter of 1893 and 1894, twelve years after the onset of the malady in the right foot, when the great toe of the left foot became similarly affected necessitating amputation





In January of that winter he began to have pain in his stomach, his gait became uncertain, and there was a numb sensation from the knees down Since that time he has been unable to work He has now well-developed tabes, marked incoordination, loss of the light reflex, gastric crises, but no lightning pains The feet show the loss of toes that have been amputated and also a clubbed condition of the second toe on right foot where there is a large callus and no nail The second toe of the left foot is gangrenous The whole foot is deformed and distorted. There is a thickening of the metatarsal bones, and disease and deformity of the bones and joints which make up the arch of the foot An examination of the accompanying photographs will show that the medio-tarsal joint is the most involved Not only are the bones eroded and displaced, but there is more or less thickening of the cartilaginous and osseous structures forming the arch of the foot, so that the foot is humped much as it appears in dislocations of the medio tarsal joint, but unlike the latter condition the foot is not in an equinus position and the plantar surface can be brought to a right angle with the axis of the leg

There are two principal varieties of tabetic arthropathy of the foot, in one we have the medio-tarsal joint involved, with a projection of the arch of the foot, in the other the disease seems to expend its force largely upon the ankle joint and the articulations between the astragalus and os calcis In these cases the foot is in extreme extension, in one figured by Charcot there is a dislocation of the ankle and the foot forms a direct continuation of the long axis of the leg

To Charcot and Féré [1] we are indebted for the term tabetic foot In 1883 they reported two cases of this disease and priority is commonly accorded them Page,[2] the previous year, had described a case of tabetic arthropathy in which the tarsal bones of both feet were involved In 1884 Féré [3] reported an additional case Since that time cases have been reported by Boyer,[4] Joffroy,[5] Chauffard,[6] Longuet,[7] Féréol,[8] Kramer,[9] Chipault,[10] Audocond [11] and Klemin [12]

In some of the cases, perforating ulcer was associated with the deformity of the foot such as we have in this case, but they are not necessarily associated, as each condition may occur separately and apart from the other

So far as I am aware, Bernhardt [13] reported the first case of perforating ulcer in connection with tabes This was followed by cases from the pens of Pepper,[14] Hinze [15] and Audocond [16] Hinze,[17] in a later communication, collected twenty cases from the literature and two additional ones occurring in his own practice, in all twenty-two, of these nineteen ere men and three women In eight cases the ulcer preceded outbreaks of tabetic symptoms and in ten hey followed In three cases the ataxia and ulcer appeared at the same time, while in one the fact could not be ascertained The longest time noted by Hinze in which the ulcer preceded the tabes was ten years It will be seen that in the case under consideration this length has been exceeded, some twelve years having intervened between the appearance of the perforating ulcer and the first symptom of tabes

number of different theories have been pro- nded to account for the trophic changes in tabes rcot believes it to be due to an atrophy of the s in the anterior horns of the cord, while Virchow ply referred it to lowered nutrition due to per ted nerve influence Oppenheim and Siemerling nonstrated a change in the peripheral nerves, but s apparent that such conditions may be only ondary Volkmann pointed out the relation of umatism and analgesia in these cases Undoubt y, in advanced forms, these factors play an impor- nt role It does not account however, for those ses in which the joint troubles precede by months even years the earliest tabetic symptoms As a atter of fact, our knowledge of the trophic centers the nervous system is yet too slight to throw much ght on the pathology of these cases

An interesting case of perforation of the aortic alves was reported by Teissier[18] in a tabetic The ase presented a close resemblance to the ordinary erforating ulcer of the foot, and was thought by him have an identical pathology

Terrillon[19] has reported a unique case of multiple erforating ulcers of the hands in a case of tabes of yphilitic origin

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[1] Arch de Neurol vi 1 p 510 1881
Tr Clin Soc Lond 18 xvi p 1
[3] Revue de Medicine ix p 17, 1 81
[4] Rev de Med 1 x p 157 1881
Gaz hebd de Med xxii, p 1
[6] Bull et Mem Soc Med d hop 1
Union Med 3 xli p 1
[8] St Petersb Med Wochenschr 1 iii p
[9] Prag Med Wochenschr, 1 xii
[10] Gaz d Hôp, 1 lxii, p 2
[11] Rev Med de la Suisse 1 x p
[12] St Petersb Med Wochenschr 1892 x p
[13] Centralb fur Chir 1 1 xiii p 600
[14] Tr Path Soc London 1881 xxxvi p 600
[15] St Petersb Med Wochenschr 18 iii p
[16] Loc cit
[17] Centralb f Nervenheil u Psych 1891 ii p 97
[18] Teissier Lyon Med lx 1887 p 40
[19] Bull et Mem Soc de Chir de Paris 1 xi p 103

APPENDICITIS

DEDUCTIONS FROM TWO HUNDRED AND SEVEN CASES OPERATED, WITH TABULATED REPORT

Read before the Chicago Pathological Society, Dec 10 1894

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In many of the recent periodicals we find these ideas expressed "The pendulum of operative appendicitis is now swinging in the reverse direction" "The frequency of operation on the appendix is going through the same course as did removal of the uterine appendages" The frequency of operation has not been irrationally swung, nor carried to its present position so called excessive, but has found the strongest opposition from the very onset and is only now by the sheer force of pathologic necessities approaching its proper position in frequency of performance The expressions quoted are used almost exclusively by men who have not yet realized the pathologic conditions nor the true importance of early operation Their intellectual vision is still in the shadow of the "grape seed," "cherry pit" "catarrhal inflammation," and "rheumatism" of the appendix They have not the slightest idea of the destructive effect of an infection of the appendix They do not realize that with an infection, the appendix may become completely gangrenous, may perforate or may produce a fatal peritonitis all in a short period of time (forty eight hours), from the initial symptom Again, it is said by the same class of men "I am opposed to the indiscriminate removal of ovaries and appendices when they are not seriously diseased" So is every rational operator and this idiotic expression should not be tolerated in medical societies without appropriately stamping its author

There has been no controversy in the history of medicine in which the struggle has been so intense between the surgeon and the physician as on that of appendicitis Both parties have been honest in their convictions and both equally positive that they are right

We naturally seek an explanation for this diversity of opinion as well as action, and the explanation is not difficult to discern Differences of opinion as to the clinical course and probable results with operative and non operative treatment have been almost entirely due to erroneous notions of the pathologic conditions Up to five years ago we had on the pathology of appendicitis practically no other teaching but that of the post mortem table, that has to day been almost entirely superseded by the teaching of the operating table To day we observe on the operating table pathologic changes almost from the moment of their beginning until the destruction of the parts concerned is complete, whereas formerly we made deductions, and these very erroneous ones, as to conditions that existed before the pathologic changes ensued which produced death

From results found post mortem we inferred the cause and course, and here was the source of error, to day we observe the disease in the various stages of its progress from its inception to the final result We are therefore preeminently qualified to arrive at a correct conclusion, inasmuch as our opportunities are so much greater for observing pathologic changes as they progress

Now, on what points have the surgeon and the physician differed and what has led to the diversity of opinion?

From 1886 to 1888, when Gaston and Kraft wrote their excellent monographs on appendicitis, it was the prevalent opinion of the profession all over the world that the vast majority of diseases in the right sacro iliac region were due to cecitis, an inflammation of the cecum or its surrounding tissues as a result of disease of that viscus, and it was variously known as typhlitis, perityphlitis and cecitis Then, after these elucidations, the physicians gradually yielded point after point until finally, to-day, it is agreed that all except 2 per cent of the inflammatory pathologic lesions about the caput coli are due to primary lesions of the appendix

We may now regard the first point as practically settled, the next argument advanced on theoretical considerations was that the appendix in inflammatory infections becomes swollen, and relieves itself by the discharge of its inflammatory products through its normal opening into the intestine, thus effecting a cure.

What have we learned from observations at the operating table? That in inflammatory lesions of the appendix, the canal is rarely relieved of its inflammatory products in the way suggested, but is relieved by a necrosis of its wall and perforation. This is followed by the formation of an abscess and a subsequent necrosis of the attached wall of the viscus to which it is adherent, the contents of the abscess *escaping into the intestine*.

The next contest was over the presence or absence of pus outside of the appendix, in the majority of acute cases. Observation in operations has shown us that in the acute stage, in 94 per cent of the cases, pus is found outside of the appendix, that the existence of pus outside of the appendix does not necessitate a perforation of that organ for its production. That an infection of the peritoneum and the formation of a peri-appendicial abscess may occur with an internal ulceration of the appendix and no perforation, as I have shown by cases reported in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,[1] March 3, 24, 1894.

While the profession was not prepared to believe that pus was present in the form of a circumscribed peri-appendicial abscess in practically all of the cases of acute appendicitis, it had been acknowledged for many years that in some cases abscesses occurred around the caput coli, which emptied into the intestinal tract and the patient recovered. We know now that this is the course in the very great majority (about 82 per cent.) of cases that recover without operation.

The last and final questions, and the ones on which the controversy is still spirited, are *a*, the pathologic changes produced by perforation of the appendix into the peritoneal cavity, *b*, the likelihood of that perforation, and also perforation of the circumscribed abscesses about it, into the peritoneal cavity, *c*, the immediate and remote symptomatic and physical manifestations of the latter, *d*, the ultimate result of such rupture, and *e*, the danger of infection of the peritoneum from an endo appendicitis without perforation.

The pathologic changes produced depend 1, on the character of the material admitted into the peritoneal cavity, *i. e.*, whether the contents of the appendix or abscess consist of, *a*, pus or *débris* in which the staphylococcus predominates, *b*, whether the streptococcus predominates, *c*, whether the bacillus coli communis exists in its virulent or inert condition, and *d*, whether the pus, in which any or all of these may have existed, has become innocuous, 2, the quantity of material admitted at one time into the peritoneal cavity, 3, on the condition of the peritoneum at the time of admission of pus.

I have observed in patients, and demonstrated experimentally, that pus in which the staphylococcus and the inert bacillus coli communis predominated, could be free in the peritoneal cavity for a long period of time and produce but very slight changes in the peritoneum, *i. e.*, that the intestine may be bathed in pus of this character for days without excoriating the peritoneum. I have observed a pint of pus of this character in the peritoneum of a patient where the history showed conclusively that it must have been present for five days, and upon opening the peritoneal cavity the normal gloss of the peritoneum of the bowel was still maintained. I have taken this pus and produced cultures with it which demonstrated its character, and injected one drachm of the pus as removed from the peritoneal cavity into the peritoneal cavity of animals, both with and without mechanical abrasion of the peritoneum, without producing any symptoms, and no pathologic lesions were found on making an autopsy.

In cases of general suppurative peritonitis, as a result of appendicitis, that have been under my observation, in which the normal glistening appearance of the peritoneum was present at the time of operation, the patients recovered, and inoculations of the pus into the peritoneal cavity of animals produced no symptoms or lesions. When I find that the pus has not abraded the peritoneum, even though the surface has been covered by it for a length of time, I consider the case a favorable one.

Note how this contrasts with the appearance in the abdomen where the streptococcus predominates. Here we find, within a short time after the rupture into the peritoneal cavity, the peritoneum in contact with the infectious material is entirely denuded of its endothelium, resembling the condition produced by a cantharides blister. The quantity of pus is always small, rarely exceeding a few drachms, with here and there flakes of lymph. The bowel is distended and paralyzed, peristalsis has ceased. Inoculations with this pus produced the same condition, the red and angry appearance of the intestine I now recognize as a signal *of the gravest importance*, as the majority of my cases in which this condition was present terminated fatally.

The septic conditions of the bacillus coli communis produced about the same physical manifestations as that of the streptococcus. The quantity of material discharged into the peritoneal cavity is of great significance, if it be small the intestines and omentum rapidly circumscribe it and protect the general peritoneal cavity from invasion. If it be large, and if it be irritating and poisonous, it may abrade the peritoneum of its endothelium as boiling water would, quickly, and be followed by a rapid absorption, causing death in a few hours. I have had only one case of this class in which an abscess of considerable size ruptured into the peritoneal cavity, within two hours the extreme symptoms of shock were present and in twelve hours the patient succumbed. *If a large quantity* of pus of a low septic character be admitted into the peritoneal cavity, it may remain in that cavity for days and produce but slight changes, finally, from some cause, this material which had been innocuous, suddenly produces grave conditions and symptoms.

It is a matter of deep-rooted belief that a peritoneum that has been irritated repeatedly by the presence of a tumor, by the close proximity of an accumulation of infectious material finally attains an increased resistance against infection, *i. e.*, the peritoneum of a patient who has suffered from the presence of a large and movable tumor will tolerate much more manipulation than a perfectly normal peritoneum, and that the peritoneum in the neighborhood of an old circumscribed abscess is more difficult to infect than a healthy peritoneum

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[1] Dr Fowler also made the same observation and in the *Annals of Surgery*, January 1894, expresses himself as follows "From the first appearance of an endo-appendicitis channels of infection are open which may lead to the occurrence of any one or all of the forms of septic peritonitis without the occurrence of perforation, formation of adhesions, or rupture of a sero-purulent collection of an abscess cavity."

There has been a great difference of opinion as to the symptoms of appendicitis and the relation of the symptoms to the pathologic condition within This diversity will continue until our power of differential diagnosis is very much increased From a train of symptoms and signs in the early stage it is impossible to say just what is the exact pathologic condition We can say, however, that it is a disease of the appendix in some stage of its development

The symptoms of appendicitis are 1, a sudden ain in the abdomen, 2, shortly followed by nausea nd perhaps vomiting, 3, local tenderness over the ite of the appendix, and most frequently in the right liac region, 4, elevation of temperature

These symptoms occurring in this order without a previous history of genito urinary infection, lesions of the gall tracts or Pott's disease, indicate appendicitis with almost uniform regularity They do not indicate that the appendix is gangrenous or that it is a simple catarrhal appendicitis They do not indicate whether the appendix has perforated or has not perforated, nor whether the cause is an infection with the staphylococcus, streptococcus, bacillus coli communis or the presence of a fecal stone or a foreign body They do not indicate whether it is stenosis of the appendix or an appendicitis obliterans but merely that it is an appendicitis, a disease of the appendix

The physical manifestations, the presence or absence of induration, tumefaction, edema of the wall, tympanites, etc, aid in the differentiation of the various pathologic conditions present in the more advanced stage, but all of these are absent or comparatively worthless in the early stage

The etiology, which was for a long time a subject of contention, is now practically agreed upon It was very difficult to eradicate from the professional mind the deep rooted erroneous belief that in a great majority of cases, appendicitis was due to foreign bodies admitted into and retained in the appendix, as grape stones, cherry stones, fragments of bone We had four cases of foreign body and 38 per cent of fecal stone To indicate the causes of appendicitis, I will use the same classification employed in my article of March 3, 1893

1 Simple pus infection, producing the catarrhal variety

2 Extensive infection by bacillus coli communis or pyogenic microbes, producing gangrene of a greater or less portion of the appendix

3 Pressure atrophy with infection of the appendix *a*, by fecal concrement, and *b*, by foreign bodies

4 Retention accumulations *a*, from cicatricial contractions, stenosis and obliteration, and *b*, from occlusion by enterolith or foreign body

From the reports of autopsies collected, I find that in 70 per cent of the cases there was a perforation of the appendix Of my own cases in which the appendix was removed there was about 80 per cent perforated Simple catarrhal primary appendicitis, if it exists, is rarely brought to the attention of the physician and still less frequently to that of the surgeon Of 207 cases reported we had but one of this variety A catarrhal inflammation where the more serious form of appendicitis had previously existed is not uncommon

The question of greatest practical importance to the surgeon and physician is the diagnosis, can we determine when an appendicitis is present, and can we determine the pathologic conditions that exist in the abdomen at any given time in the progress of the disease? To the former we must with positiveness answer in the affirmative, to the latter an equally forcible negative must be given, that is, we can say from the symptoms that a lesion of the appendix exists but we can not say, in most cases, how extensive, how dangerous and how far reaching the effects of that appendicitis may be, and still less can we say in any given case how soon the life of the patient may be greatly jeopardized by the disease which at the moment has apparently no grave symptoms

If we were able to determine in the early stage from the symptoms, physical signs or clinical history of a given case that it was going to take a favorable or unfavorable course, we could regulate our treatment accordingly Unfortunately, there are no symptoms present in the dangerous cases, premonitory of their fatal termination, until the patient has passed beyond the stage where an operation offers reasonable hope for a recovery

The question to be answered is, When should we operate?

The so called conservative answers "Operate on the collapsed cases, the cases that present symptoms of fulminating peritonitis, the cases that are taking an unfavorable course, the cases that appear to be progressing rapidly to destruction under medical treatment"

The surgeon must take a positive stand and answer, No, to each of these rules It is admitted that 50 per cent of the fatal cases terminate before the end of the sixth day, many on the fourth and a smaller number on the second

The surgeons who wait till the sixth day must therefore expect to have a mortality of 50 per cent of all the cases that would die without operation I believe the proper position for the true, earnest and advanced medical man is expressed by the eminently scientific and truly conservative physician, Dr Norman Bridge, in the following words "Appendicitis is one of the most frequent and dangerous of the inflammatory diseases in or about the peritoneal cavity We do not know the line between proper medical treatment and the demand for surgical interference, and rather despair of finding it The medical man is practically powerless to control the destiny of the patient It is always a surgical disease and the mortality should be materially lessened by skillful surgical treatment"[1] Would you delay operation in a case that is progressing favorably? By that I mean a case in which the temperature is not above 99 degrees, the pulse not above 80, the expression good, the abdomen presenting no alarming symptoms No, I have seen cases of this class go to the third, fourth and fifth day with all of the most favorable symptoms that could well be imagined and on the sixth day die From what? From a suppurative peritonitis that had existed all that time, as shown by the pathologic changes found in the peritoneum

We have no sign, symptom or combination of signs and symptoms which indicate with any degree of certainty, suppurative peritonitis It may exist and the free peritoneal cavity contain drams of pus with the patient about town as the following case illustrates The case occurred in the practice of Dr Jas G Berry

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[1] Prof Wm E Quine, whose name is synonymous with rational conservatism has said "I am convinced that early operation is the most scientific treatment for appendicitis with our present knowledge of the pathologic condition"

Patient, G F, aged 19, weighed 220 pounds On the morning of September 8, after breakfast, was attacked with a severe pain in abdomen, shortly followed by vomiting, and the pain and discomfort were sufficient throughout the day to prevent him from attending to his work He remained about the same during the night, and the following morning, at 10 o'clock, twenty-six hours after the onset of pain, he walked a couple of blocks to the drug store and consulted the druggist concerning his trouble, who advised him to see a doctor, and he was seen by Dr Berry at 3 o'clock, diagnosis of appendicitis made, his pulse when seen by Dr Berry was 140 and temperature 102 degrees, no tympanites, increased local tenderness over the region of the appendix, peristalsis absent, patient's countenance good and expressed himself as feeling tolerably comfortable At 4 o'clock, assisted by Drs Berry and McQuaig, I did a laparotomy On opening the peritoneum, pus flowed out, there were no adhesions whatever between the intestines, the appendix was free, a fecal stone protruded from an opening in the side of appendix, where it had produced a pressure atrophy perforation, appendix amputated, abdominal cavity sponged, pus found down in the pelvis gauze drained The normal gloss of the intestine was not disturbed in the least by presence of the pus and the surface was not even red Patient made an uninterrupted recovery It will be noticed that the operation was performed thirty-three hours *after the onset of symptoms and but a few hours after the* patient had been walking about in the street with a suppurative peritonitis What would have been his condition if the operation had been delayed twenty four or forty eight hours? The answer is self evident

A retention appendicitis, on the other hand, may produce a temperature of 105 degrees or even greater, enormous tympanites and pulse 140, an anxious facial expression and all of the so-called classical symptoms of a peritonitis, and the peritoneal cavity be free from infection (See report of case which occurred in practice of Dr E W Lee, JOURNAL OF AMERICAN MEDICAL ASSOCIATION, March 3, 1894 These are extreme pictures, but they do occur

When should we operate? As we are unable from the signs and symptoms to determine the exact pathologic condition, are we justified in allowing the probability of fatal conditions to continue for such a period of time without such action as would place the patient beyond the possibility of rescue even by operative procedure? No, until such time as the physician is able to determine the exact pathologic condition and danger in the individual case, and indeed we must now consider that time far distant, he is not justified at the peril of the patient's life in restraining the surgeon from acting

It must be conceded by all, that an operative procedure, in competent hands, is in itself one involving very little risk, while the continuation of the pathologic processes in many cases greatly jeopardizes the life of the patient

There is only one safe position to take, and that is in every case in which a diagnosis of appendicitis is made, the operation should be immediately performed It is true that many cases can recover without operation, but we can not differentiate, in the early stages which cases are going to be favorable ones It is further true that the earlier the operation is performed, the less the danger to the patient and the greater the ease of removing the appendix

In a majority of cases, if an operation be performed within forty-eight hours after the onset of the symptoms, the appendix is not yet ruptured and can be removed without pus infection of the peritoneum, an advantage of which even the boldest surgeon is pleased to avail himself The following case in the practice of Dr Hoelscher is a beautiful illustration of this class

Date of operation, Nov 10, 1894 Operator, Dr. J B Murphy with Dr J H Hoelscher Diagnosis, appendicitis Patient, Miss T, aged 16, was perfectly well up to 4 30 P M, November 9, when she was attacked with pain in the abdomen, which persisted and increased in severity, compelling her to go to bed She began to vomit at 8 30 P M, and vomiting and pain continued through the night and up to the time of operation At 11 30 of that night, when seen by Dr Hoelscher, temperature was normal, the diagnosis of appendicitis was made At 8 A M, November 10, temperature 99 5 degrees and pulse 90, at 11 A M, time of operation, temperature 100 degrees, pulse 110 Very tender over region of appendix, not sensitive in any other portion of the abdomen, no tympanites, peristalsis absent in close proximity to the appendix, expression good Dr Hoelscher is to be congratulated on his early diagnosis

Operation Lateral incision Appendix covered entirely by peritoneum, adherent to the posterior surface of cecum up on to the ascending colon End enlarged to half an inch in diameter, contained no fecal stones, but was full of pus, gangrene of mucous membrane beginning lymph flakes in outer wall of appendix Appendix ligated and removed without rupture peritoneum sewed over, gauze drainage. Patient made an uneventful recovery

In the later stage, if the surgeon is unfortunate enough to be called at the time that the peritoneum is flooded with pus and the patient collapsed, it is his duty perform the operation and give the patient the advantage of the small percentage in his favor in this forlorn condition

The rule first, last and always should be Operate in every case of appendicitis, promising or unpromising, at the earliest possible moment What operation shall we perform? The incision should be made a little toward the median line from the highest point of induration, parallel to the rectus, the muscular layer should be separated with the handle of the scalpel parallel to the course of the fibers, as advised by McArthur and McBurney, and thus lessen the liability of hernia The opening must be ample to allow the surgeon to perform the work within with ease

In the early cases the appendix should be removed, as the adhesions are friable and permit of the appendix being readily separated and drawn into the field The parallel band of fibers on the cecum, opposite its mesentery, can always be followed to the position of the appendix and is an infallible guide to its location

If the non-infected portion of the peritoneal cavity be opened before the abscess is reached, *as is always desirable in the early stage*, a thorough packing of gauze should be made around the induration to prevent the gas from entering the unaffected portion of the peritoneum This I consider of very great importance, and I make an effort to enter the peritoneal cavity just to the side of the adhesions, so as to open the unaffected portion of the peritoneal cavity before I open the abscess, in that way the adhesions may be located and the packing well placed, so as to thoroughly protect the peritoneum before the adhesions are torn

In the later cases, that is, from the seventh day on, I consider it advisable to open directly into the abscess where adhesions to abdominal wall are present, drain the abscess, remove the fecal stone, if one be present, and make no effort to remove the appendix The appendix in the acute cases should be simply ligated with chromicized catgut, no effort should be made to top-sew it or bury it in the cecum Occasionally there will be a fecal fistula, but that closes in a very few days itself

In the cases of appendicitis operated on in the intermediate stage i e, between the attacks, a cuff should be made of the peritoneum of the appendix, peeling the peritoneum back one-half inch or more, the mucous and muscular layers ligated and the cuff drawn back over the stump of mucous membrane and ligated The pus should be carefully sponged out of the cavity and no water or disinfecting solutions used, do not waterlog the peritoneum as it is sufficiently taxed in taking care of the pus without this additional labor A glass and gauze drain should both be used in all cases in which pus is present at the time of operation or in which there has been a recent attack of appendicitis The drain can be removed in eight or ten days as the cavity fills up from the bottom

This, in short, is an outline of the procedure I follow All of the minor details can not be mentioned here There is no operation in the peritoneal cavity where the patient's life is so completely in the hands of the operator, where the errors of doing too much or too little work would be so likely to result fatally as in the operation for appendicitis, with its multiform and complicated pathologic conditions The results depend in a very great degree on the extent of the invasion, and the latter upon the period of time that has elapsed since the onset In speaking of results, I do not mean the results in recurring appendicitis, the simplest and least dangerous variety of all, I mean the results in all classes of cases, from the general suppurative peritonitis as a sequence of appendicitis, to the simplest catarrhal variety

There is a growing tendency in the profession to shirk the responsibility of operating where the dangers are great, *i e*, to defer operation on the most dangerous cases and advocate operation on the obliterated or stenosing recurrent varieties in which there is the least danger to the life of the patient from the disease We must not swerve from our obligations to our patients, but make every effort to rescue them, regardless of the praise or condemnation bestowed upon us

In reporting the cases, it is the duty of every operator to classify or mention in detail the important or common symptoms of each individual case in a tabulated form and give an abstract of the history and pathologic conditions, that the analytical mind in reviewing the results obtained by the individual operators may be able to explain the cause of their success or failure when the operator himself is not Therefore it is the duty of every surgeon, in writing on this subject, to give sufficient details of his cases to enable the reader to judge why they were of the grave or mild variety, whether they were all cases of recurrent, simple, adhesive appendicitis, or whether many of them were of the gangrenous, perforative and malignantly infectious variety with the peritoneum extensively involved

(*To be continued*)

A Medicine Man Slain —A medicine man of the tribe of Puyallup Indians, named Jim Bonchette, was killed by Jerry Dominic, another Indian belonging to the Muckleshoot Reservation, in the State of Washington, for the reason that the former had failed to cure the sickness of three of the children of the latter

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ORIGINAL INVESTIGATIONS ON THE NATURAL HISTORY, (SYMPTOMS AND PATHOLOGY) OF YELLOW FEVER 1851-1891

BY JOSEPH JONES, M D, LL D

NEW ORLEANS LA

(*Continued from page* [illegible])

CHAPTER VII

MICROSCOPIC AND CHEMIC EXAMINATION OF BLOOD

The color of the venous blood was purplish, between that of arterial and venous blood When a drop of blood was allowed to fall upon a sheet of white bibulous paper, a central bright red spot remained with a surrounding bright golden areole of serum, which spread around the central corpuscles by capillary action The blood coagulated very slowly and formed a large loose coagulum, or clot, which contracted slowly and imperfectly Thus in the *1000 grain* specific gravity bottle the coagulum filled the whole bottle, and from this amount of blood not more than 150 grains of golden colored serum could be collected at the end of forty eight hours The blood corpuscles tended to rapid dissolution in the serum, and upon long standing the serum changed from this cause to a bright red The reaction of the blood was most carefully determined as it flowed from the veins, and was found to be slightly alkaline, as is usual in healthy blood I regarded this observation with interest as in several cases, in which I had abstracted blood from the cavities of the heart, after death, it gave a decided acid reaction, but the present observation would seem to show, that the acid reaction was due to post-mortem changes Immediately after its abstraction, the blood was subjected to a careful and rigid microscopic examination Under a magnifying power of one fifth of an inch (Smith & Bucks of London, best objective glass) many of the blood corpuscles presented an irregular stellate outline When viewed under high magnifying powers, as the one eighteenth inch immersion lens of G & S Merz, of Germany, with eye glasses, to magnify 1,050 diameters, the crenated and stellate blood corpuscles were found to be studded upon the surface, with nodular rounded projections The colored blood corpuscles appeared to be undergoing changes of form, as if nodular transudations of the globulin were forming upon the surface These changes were most marked and frequent, upon the surface and outer portions of the clots, and resembled in some respects the amœboid movements of the coalescing corpuscles, the nodules were, however, uniformly diffused over the surface of the corpuscles When the blood was examined, from the interior of the clot, the corpuscles were found conglomerated together forming rolls or piles, adhering together by their flat surfaces, like the rouleaux of the blood of inflammatory diseases and of the horse The corpuscles which had been joined and agglutinated together by their flat surfaces, were normal in shape, and presented no stellate or nodulated outline as was the case with the corpuscles from the surface of the clot, and from the surrounding golden serum It appeared as if the nodulated exudation had formed the bond of cement between the opposing flat surfaces Upon standing twenty-four hours and longer, the colored corpuscles tended to dissolve and lose their outline, and the serum became colored from the escape of the coloring matter of the red globules

The colored corpuscles appeared to be acted upon and altered by the urea and bile which chemic analysis revealed in considerable amount in the serum After standing in an open beaker or in porcelain capsules for forty-eight hours, numerous vibrios made their appearance, as in other putrefying animal fluids, as blood, albuminous urine, and serous exudations But no living animalculæ or vegetable cells or sporules or pigment granules were discovered even after the most diligent search with high powers, ranging up to the twenty-thousandth of an inch objective, in the fresh blood The blood drawn from the arm during life putrefied much more slowly than that taken from the heart and large blood vessels after death The blood was carefully examined by the best and most reliable chemic methods, and was found to contain a comparatively large amount of this constituent, large and well formed crystals of urea, and of the nitrate of urea, were obtained from comparatively small quantities of blood

As much urea was obtained from 100 grains of the yellow fever blood as is ordinarily obtained from 7,000 grains of healthy blood The serum was also carefully tested for bile, and was found to contain all the ingredients of bile The blood also contained numerous small oil globules and in one of the specimens a distinct oily scum rested upon the surface of the clot So striking was the oily appearance of the blood that it was noticed by the medical students who assisted during the bleeding The presence of the urea in increased amount, and of the bile in the blood, were due to the suppression or arrest of the functions of the kidneys and liver To the presence of these substances in the blood must be attributed in part, at least, the delirium, intoxication and aberrated muscular and nervous action, and to a certain extent the nausea, vomiting, gastro-intestinal irritation and black vomit The altered shape of many of the colored blood corpuscles was certainly due, in a great measure, to the physical and chemical action of the urea and bile of the serum Specific gravity of venous blood from the arm of this yellow fever patient, 1055 6 The density of this blood was somewhat below that assigned by physiologists and pathologists as the standard of healthy blood Thus Becquerel and Rodier give the density of the defibrinated blood of the male as 1060, and of the female as 1057 5

The specific gravity of the serum of the venous blood from the arm of this yellow fever patient was 1027 The specific gravity of the serum, therefore, did not differ materially from that of health, according to Becquerel and Rodier, the density of the serum of the male being 1028, and of the female 1027 4 The serum was of a deep yellow color, similar to the yellow color of the liver and of the diluted bile from the gall bladder of yellow fever subjects Clot, soft, large, and without any very great contractile power After the contraction of the clot the serum was tinged of a red color, from the presence of colored corpuscles and the coloring matters of the blood The amount of serum forced out of the clot was relatively small and appeared to possess the power of dissolving the colored corpuscles upon standing in contact with the clot, the red color increasing gradually in depth In these respects the yellow fever blood presented a marked contrast to healthy and inflammatory blood Only 108 grains of serum could be obtained from a vessel containing 890 grains of blood

Fibrin in 1,000 parts of venous blood abstracte from the arm of this yellow fever patient, 0 27 The fibrin was greatly diminished, being only one tenth of the quantity present in the normal bloo The fibrin itself appeared to be of the usual tenacity and the imperfect contraction of the clot appeared t depend rather upon the small amount of fibrin, tha upon any physical or chemical change in the con stituents of the blood In the marked diminution c fibrin, we have a most interesting and important ex planation of the cause of the hemorrhagic tendenc in yellow fever

The following are the chief characteristics of th blood in the stage of depression in yellow fever, a established by the preceding chemic analysis

Specific gravity of blood and serum not speciall altered

Blood coagulated slowly and imperfectly

Clot voluminous and soft

Fibrin, quantity deficient and not more than one tenth the normal amount

Reaction of blood alkalin

No deficiency of colored blood corpuscles, the drie blood corpuscles being 130 57, and the moist bloo corpuscles 522 28 The organic matters of the mois blood corpuscles are normal in amount, while th fixed saline constituents are diminished, being onl 1 78 in the blood corpuscles of 1,000 parts of blood

The relation of the moist blood corpuscles to th liquor sanguinis, as far as quantity was concerned was not disturbed, the former standing in relation t the latter in the 1,000 parts, as 522 28 of the bloo corpuscles to 477 72 liquor sanguinis

The albumen of the liquor sanguinis was dimin ished to a marked degree, being only 53 40 parts i 1,000 parts of blood The extractive matters of th liquor sanguinis were increased The extractive mat ters were complex, and included bile, urea an ammonia The fixed saline constituents of the liquo sanguinis was not diminished Without doubt th loss of albumen, as well as the presence of bile, ure and other excrementitious matters in the serum o liquor sanguinis, determine to a certain extent, a least, the character of the capillary circulation an the production of black vomit The patient die twelve hours after this observation The kidney never acted and he appeared to die from the combine action of the febrile poison, bile, urea and other ex crementitious matters, and the loss of blood durin the slow but persistent hemorrhage from the gastro intestinal mucous membrane

Autopsy twelve hours after death Exterior, supe rior portions of face, trunk and upper portions of limb of a deep golden orange color The lower dependen portions of the face and of the trunk and limbs wer of a mottled, purplish, yellow and livid maculate appearance, as if the patient had been beaten with a club The general appearance of the exterior of th body was horrible Black vomit had run out of th corners of the mouth, and saturated the windin sheet, and had trickled in a muddy filthy strean along the sides of the face and neck Features ful and somewhat swollen Belly full and tympanitic Well formed muscular man, in the full vigor an strength of manhood Large well developed chest with full pectoral muscles Arms full and round with good muscular development The left knee appeared to have been injured at some previous time at least months if not years before the fatal illness

The patella was displaced downward and outward laterally, and the joint was ankylosed A small ulcer existed upon the outer aspect of the left knee joint, below the edge of the displaced patella The left leg was a little shorter and smaller than the right I had the bones carefully cleaned after death, and found that they had been altered by chronic inflammation, which had been attended with certain changes of the bony structure This injury was of long standing, and had nothing whatever to do with the present attack, as the patient was able to perform active labor up to the time of his last illness, and the parts in and around the joint presented no swelling or discoloration The patient appeared to have been suddenly cut off in full vigor and health, and in ith resembled one into whose veins a deadly poison d been injected by a venomous reptile, which had t only poisoned, but also enveloped in its powerful ls and strangled its victim

Head Dura mater, pia mater and arachnoid mem-anes congested with blood The brain was con sted with blood, not only in its membranes but so throughout its textures The brain and its mem-anes, however, presented no marks of inflammation no exudation Membranes of spinal cord con sted with blood The congestion of the blood ves ls of the brain appeared to be similar in all respects that of the capillaries and small blood vessels in e different organs and tissues The consistency of e brain was normal Weight of brain, two pounds nd fourteen ounces, it was carefully tested for bile nd urea The infusion of the structures of the brain esented a bright golden color, like that of the rum When carefully tested, the presence of the loring matters and acids of the bile was con-usively determined in the cerebral structures When e decoction of the brain was evaporated in a watch-ass and examined under the microscope, numerous autiful stellate and prismatic crystals of the phos hates of lime, and ammonia and magnesia made eir appearance

When carefully tested for urea, according to the est methods known to chemists, the alcoholic ex act obtained from the water extract was found to e literally loaded with the product of the meta orphosis of the tissues, and as large a crop of per-ectly formed and characteristic crystals of the nitrate f urea were obtained as from an ordinary specimen f urine of moderate specific gravity The brain ontained more urea than any other organ, the liver ot excepted It was clearly established by this hemic examination that the urea existed in much arger quantity than in the healthy brain, or in the rains of those who die from diseases in which the ction of the kidneys is not diminished

Thorax The pericardium was congested As is usual in yellow fever, the capillaries and small blood vessels of the pericardium presented a beautifully arborescent appearance from the accumulation of colored corpuscles I have in my possession a portion of the pericardium of a yellow fever patient, which I preserved by simply spreading upon a glass slide, and after drying, saturating with Canada balsam and covering with a glass slide The preparation shows an intense congestion of the blood vessels and capillaries, and so numerous are the colored corpuscles, and so brilliant the colors, that the preparation resembles the best injections with the most brilliant carmine The pericardial sac contained about two ounces of bright golden colored transparent serum

The heart presented a brownish yellow appearance, resembling the pale flabby heart of scurvy The textures although softer than in the normal heart, were, however, firmer than in well marked fatty degeneration The muscular textures of the heart required considerable pounding in the mortar to reduce them to fragments sufficiently small for decoction The decoction of the heart in distilled water was loaded with golden colored oil, which floated in a thick scum upon the surface, and it resembled in its rich oily nature the richest soup made from the marrow and fat of the bones of fat well fed animals The fat was far more abundant than is usual in the heart of malarial fever or other diseases in which there is no fatty degeneration of this organ The filtered decoction of the heart was of a golden yellow color The decoction of the heart contained bile in abundance As the decoction of the heart, after careful filtration, slowly evaporated in a porcelain capsule, a deep orange colored ring formed around the sides of the vessel Weight of heart, eight and one half ounces Both cavities of the heart contained blood Several small, ropy, golden-yellow clots were also discovered in the cavities of the heart The muscular tissue of the heart appeared to have lost its tenacity and to have become relaxed and somewhat softened, and this view was confirmed by microscopic examination The heart was also carefully tested for urea, and this substance was clearly detected in considerable quantity, but in relatively less amount than in the brain Under the microscope, oil was found in the form of minute globules, diffused through all the tissues of the heart, and even within the ultimate muscular fibers The muscular fibers of the heart presented under the microscope, a granular appearance, and the transverse striæ were not as distinct as in normal hearts The increase of free fat or oil in the structures of the heart was therefore determined by the microscope and by actual experiment The heart contained therefore in comparatively large amounts, bile, urea, oil

No animalculæ or vegetable cells or spores were observed under the one eighteenth inch immersion objective of Merz, either in the blood or textures of the heart

To be continued

THE EARLY DIAGNOSIS OF CARCINOMA OF THE STOMACH, WITH THE BACTERIOLOGY OF THE STOMACH CONTENTS

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(*Concluded from page 106*)

Abelous (*Revue de Therap Medico Chir*, April 1, 1890) found sixteen species of microorganisms in his own stomach after fasting, ten of these he asserts could form lactic acid This has not been corroborated by other similar experiments Abelous makes no control, nor does he prevent contamination from the mouth and esophagus In Miller's experiments the stomach contents were secured from a patient who could regurgitate the contents at will at any time After disinfecting the patient's mouth with bichlorid 1 to 1,000, Miller secured the contents of the stomach On examination he discovered many microorganisms which he had previously found to be present in the mouth, among these the bacillus lacticus

The esophagus is a perfect culture bed Its folds form a favorable nidus for microorganisms Unless this is specially considered, error may arise, since contamination from the esophagus easily takes place

The lactic acid forming bacilli can be found in the stomach in health, as well as in disease However, it is doubtful whether the colonization of the bacillus lacticus can be demonstrated in the healthy stomach, to such an extent as in carcinoma, and more particularly carcinoma pylori

CHEMIC METHODS

The presence of lactic acid in the stomach contents is determined by Uffelmann's and Nessler's reagent The quantity of lactic acid in the stomach contents is estimated by Boas' method This is as follows The patient's stomach is washed out with sterilized water in the evening The patient then takes oatmeal gruel which is prepared by boiling a tablespoonful of oatmeal and a pinch of salt, in 1,000 ccm of water In the morning the stomach contents are drawn off and filtered The filtrate is concentrated upon a water-bath, until a reaction with Congo red paper fails *Barium carbonate is then* added which combines with the lactic acid to form a lactate This is brought to the boiling point, to *drive off the CO_2 and volatile substances The lac*tate is then treated with phosphoric acid which sets free the lactic acid This is extracted with ether, the ether evaporated, and lactic acid mixed with alcohol remains The residue is then treated with an oxidizing agent, to change the lactic acid to acetic aldehyde It is here where Boas' method is faulty, alcohol when oxidized also forms an aldehyde To avoid this error, Dr Wesener made an essential modification before oxidizing the lactic acid which may also contain alcohol, Wesener treats the residue with barium carbonate, and evaporates nearly to dryness This drives off the alcohol and does not affect the lactate The lactate is again treated with phosphoric acid and boiled, to remove the CO_2 After this, Boas' method is carried out The solution is diluted with 45 ccm of water and 5 ccm of sulphuric acid, and about 30 to 40 grains of black oxid of manganese added This solution is placed in a 200 ccm flask which is connected with a Liebig condenser and gently boiled, and distilled until four-fifths of the material has passed over (The lactic acid has been converted into acetic aldehyde) The distillate is treated with 20 ccm of a decinormal solution of iodin, and 20 ccm of a normal caustic potash solution At this point iodoform, potassium iodid and iodite are formed, 20 ccm of HCl, sp gr 1018 is added which liberates all of the iodin not used in the formation of iodoform Sodium bicarbonate is used to neutralize and a decinormal arsenic solution is added in excess The excess of arsenic is filtrated back, with a decinormal iodin solution Starch is used as the indicator The difference in the number ccm of decinormal iodin and decinormal arsenic solution is equal to the iodin required to change all of the acetic aldehyde to iodoform This result is multiplied by .003,388 which equals the lactic acid present in the stomach contents used Compute to 100 and this represents the percentage of lactic acid

BACTERIOLOGIC METHODS

For bacteriologic purposes the contents of the stomach are taken

1 From the fasting stomach
2 After a test meal according to Ewald
3 After test meal according to Boas (oatmeal soup at night and withdrawn next morning)
4 The stomach is washed out with sterilized water and the water that remains is aspirated

The gyromele is introduced according to the method as described in the *Wiener med Wochenschr*, Nos 1 and 2, 1895 To avoid error of contamination, the mouth and esophagus should be cleaned Microscopic examination is made of the contents A stain is irrigated through, by placing the stain on one side and a blotter on opposite side of the cover-glass When any field of interest is presented it can be divided and mounted according to the usual methods

Drop cultures are made from the stomach contents, using the contents as a nutrient media The development of bacteria under the microscope may be observed for hours in succession The observation of the growth of some of the algæ is very instructive by this method Line cultures may be made upon the sterilized mucous membrane of the stomach of pigs

The mucous coat is dissected from the muscular coat, stretched upon a glass plate and sterilized at 50 to 55 c four hours each day for one week The ordinary moist chamber allows contamination to take place To avoid this I devised the following method A glass battery jar is placed upon a common dinner plate, a second jar of larger size is inverted so as to cover and inclose the first jar, a solution of 1 to 1,000 bichlorid is poured into the plate to form a water valve, a few folds of filter paper interposed between the inner and outer jar prevents rapid evaporation Two glass tubes pass from the outer jar to admit air and when plugged with cotton prevent contamination This moist chamber is sterilized and the culture plate placed in the inner jar, and sterilized by fractional sterilization as before mentioned

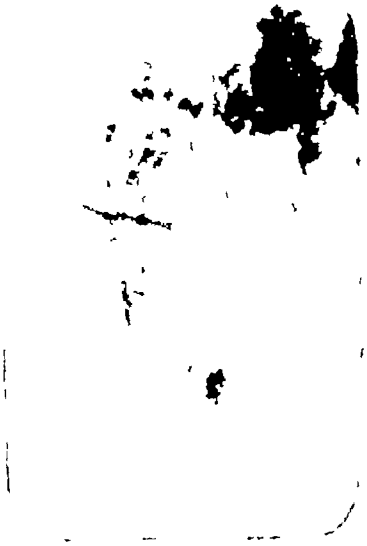
Thus the coagulation of the albumin is prevented The ordinary sterilized platinum needle is used dipped into the material derived from the stomach Line cultures are made by drawing it lightly over the surface of the sterilized mucous membrane used as the culture bed Five or six strokes or lines are sufficient The third line will isolate colonies for pure cultures (fished under the microscope fifty diameters) The colonies can be forced without melting the medium, and it furnishes as near a natural culture bed as possible for artificial cultivation

To favor the development of lactic acid microorganisms, the surface of the culture medium may be sprayed with a thin mixture of starch water When desired the mucous membrane can be dried like parchment and the colonies preserved *in situ*

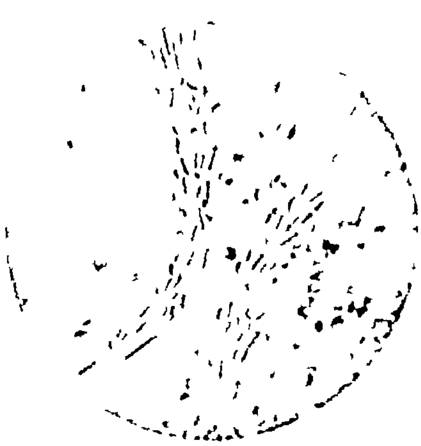
Nutrient gelatin and agar-agar for tube cultures This is prepared by the usual method, except in place of beef extract, I use the extract from the mucous membrane of the stomach of pigs, 5 to 20 per cent of gelatin is added, or 1 to 2 per cent of agar-agar The addition of sugar to the culture material is often an advantage in the study of stomach bacteria

Liquid Media —Extract from the mucous membrane is prepared by taking one-half kilogram of finely minced mucous membrane of the stomach of a pig, covered with 1 liter of distilled water and left in

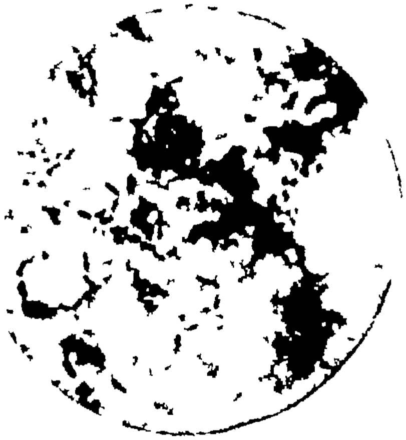
COLONIES TAKEN DIRECT FROM THE STOMACH AND MOUNTED



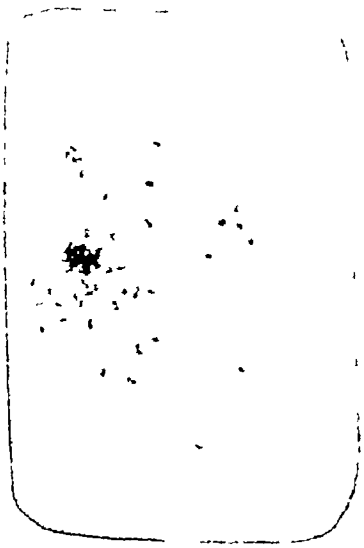
No 1 600 diam



No 2 1,250 diam

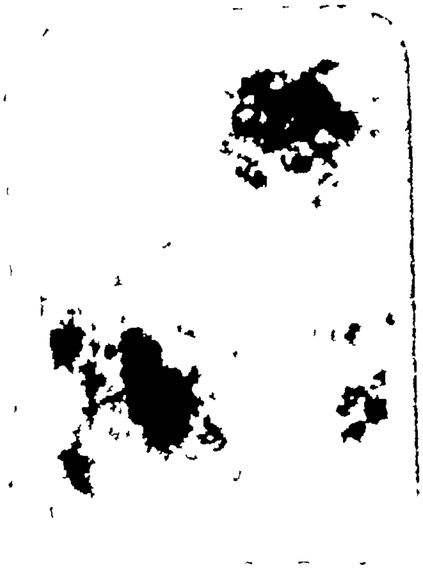


No 3 1,250 diam

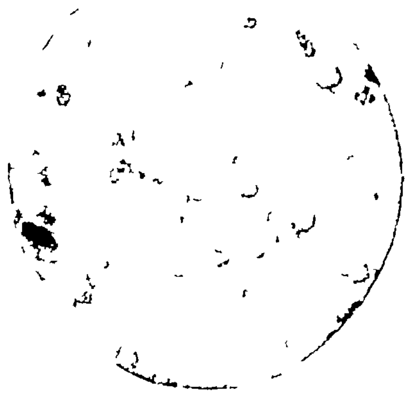


No 4 1,200 diam

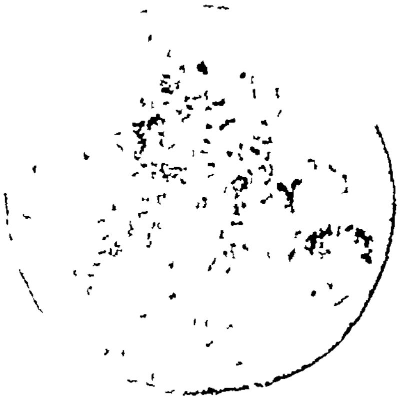
No 5 1,250 diam



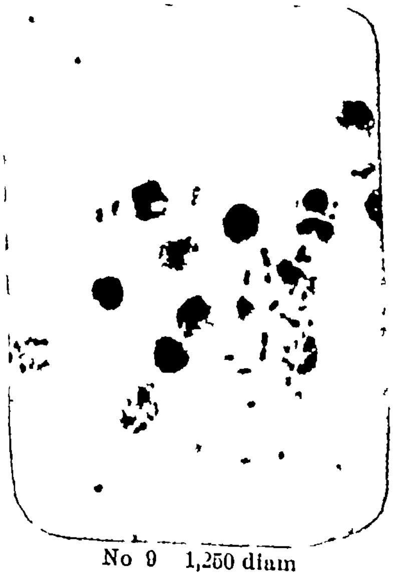
No 6 600 diam



No 7 1,250 diam



No 8 1,250 diam



No 9 1,250 diam

Nos 1 to 5, inclusive, from cases of carcinoma of the stomach Lactic acid forming microorganisms
Nos 6 to 9, varieties of algæ from cases of simple dilatation of the stomach

the refrigerator for twenty-four hours This may be sterilized by fractional sterilization as in the preparation of blood serum To this may be added starch, grape sugar, milk, or brewers' liquid malt, which must be obtained fresh from the brewery This is used for the study of fermentation and germs of putrefaction

In place of the extract of the mucous membrane, I find it an advantage in some cases, to use the sterilized filtered contents of the stomach This can be prepared and kept for use as desired

The method of preparing the stomach of living dogs for the study of the growth of bacteria found in the human stomach has been referred to on page 317 of the JOURNAL

CONCLUSIONS

1 Carcinoma of the stomach early creates a soil for the rapid development of microorganisms

2 The lactic acid forming germs grow more readily in carcinoma of the stomach than in other diseases of that organ

3 Lactic acid germs found colonizing in the stomach are of great diagnostic value in carcinoma

4 The absence of germs does not exclude carcinoma

5 The determination of lactic acid of fermentation by Boas method, as modified by Wesener, is of diagnostic value

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SOCIETY PROCEEDINGS

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26, and 27, 1894

(Continued from page [illegible])

WILLIAM J HERDMAN, M D, President

AFTERNOON SESSION

The meeting was called to order by the President at 2 30 P M

MR W J JENKS, M A I E E, of New York City, read a paper on

DIRECT CURRENT DISTRIBUTION[1]

When I was asked to contribute a paper at this time I replied that I had nothing to tell which could be of service to those who used electricity on the spot where it was generated and applied it without distribution over large areas to purposes of which I have but a vague comprehension I had expected, in becoming an Associate Fellow to gradually inhale a medical atmosphere, which like a fresh supply of oxygen from the rarefied air of an unusual altitude would bring to my own mind and body greater vigor But I had not counted upon exhaling any ideas which might help to establish a reciprocal relation between the medical and the engineering factors of this Association If therefore I succeed in doing so I shall enjoy an unexpected pleasure and you may credit with whatever useful suggestions I may offer, the account of our good friend the Secretary, by whose courteous invitation I am here

I hesitate very much to attempt, in the presence of a gathering of trained scientific observers, any restatement of established truths, and in apology for so doing I offer to you only the assurance that every such repetition makes the principles which underlie electrical action seem clearer to my own mind I am in a measure reassured by the thought that even to the vision of the most eminent physicists of these closing years of a marvelously fruitful century, many phases of the production and operation of the mysterious servant which we are trying to harness, are still seen only "through a glass darkly"

My knowledge of your science is not sufficient to enable me to do more than suggest with much diffidence one or two lessons which my own department of electrical work may possibly teach physicians If there are others, I am sure your perception of the necessities of your section of the art will promptly recognize and apply them

Until we know what electricity is, we can not accurately define "electrical distribution" We may conceive of the behavior of electricity as resembling or analogous to that of a liquid stored in reservoirs or flowing in pipes, we may speak of its development and the transmission of power by its aid from point to point as the generation and circulation of a current, we may imagine that we are handling a ponderable substance when we measure the effects produced by its presence or by the expenditure of its energy

Whether it should be called a tangible though imponderable entity, or an ether like medium which may be started into vibration or circulation by the expenditure of energy, or simply one of the group of fundamental forces by which all created things are held together and maintained in that state of vibratory change which is the life of the material universe, it is not necessary that we now inquire, and if it were I should not stand here and attempt to answer It may be useful for us to recall the definition given by our distinguished Honorary Fellow, Prof E J Houston, in his "Electrical Dictionary"

"*Electricity* —The name given to the unknown thing matter or force, or both, which is the cause of electric phenomena

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[1] It is but fair to state that the author of this paper considers it practically unintelligible without illustrations which unfortunately, for want of time, must be omitted in this publication —EDITOR TRANSACTIONS

Electricity, no matter how produced, is believed to be one and the same thing The terms *frictional-electricity, pyro-electricity, magneto-electricity, voltaic or galvanic-electricity, thermo-electricity, contact-electricity, or animal or vegetable-electricity, etc*, though convenient for distinguishing their origin, have no longer the significance formerly attributed to them as representing different kinds of the electric force "

In this definition we find a foundation for the statement (which is important in considering the limitations of the subject assigned to me) that if we form a clear conception of the comparatively simple phenomena of the distribution of direct currents, (constant in direction), we shall be prepared to appreciate to a greater degree the complicated and involved phenomena which appear when we distribute currents of alternating direction I have taken the liberty to depart slightly from the letter of my topic as announced, in order to include currents which are always *the same in direction*, irrespective of whether they are "constant" in the sense employed by electrical engineers, that is, of unvarying strength or rate of flow As a part of the groundwork of this discussion it may be convenient also to remember that such currents may for practical purposes be excited by primary or secondary chemic batteries, magneto or dynamo-electric machines or pyro magnetic generators, though the last-named source of electrical energy is still in what we may call an experimental stage for the purposes of producing any considerable electro-motive force

I may perhaps be excused for illustrating some features which attend distribution from either of these sources in the way which makes the results most clear to my own mind Possibly the method may not appeal as plainly to others

It is only about fifteen years ago that the electrical engineer was called to deal with the distribution over large areas, of currents representing many mechanical horse-power The possibility of doing this work commercially was a direct result of the discovery by Faraday of the law of magneto-electric induction, by which for the first time the product electricity was secured at a cost which bore a reasonable relation to that of the power required to excite it For seventy years the world was in possession of the most brilliant and efficient source of light which man had ever devised, the electric arc, without applying it to the illumination of streets and houses Such applications suggested themselves to Sir Humphrey Davy in 1810, but there were grave difficulties to be overcome One of these, the wasting of the carbons, which are in part vaporized and in part dissipated by ordinary combustion, was overcome by the invention of regulators or arc lamps

The second arises from the operation of that inexorable law which, (in the language of a noted scientist) throughout the material universe demands an eye for an eye and a tooth for a tooth, refusing to yield the faintest glow of heat or glimmer of light without the expenditure of an absolutely equal quantity of some other power Hence, in practice, the desirability of any transformation must depend upon the value of the product in relation to that of the power expended The metal zinc can be burned like paper, it might be ignited in a flame, but it is possible to avoid the introduction of all foreign heat and to burn the zinc in air of the temperature of this room This is done by placing zinc foil at the focus of a concave mirror, which concentrates to a point the divergent electric beam, but which does not warm the air The zinc burns at the focus with a violet flame, and we could readily determine the amount of heat generated by its combustion The zinc can be burned not only in air but in liquids It is thus burned when acidulated water is poured over it, it is also burned in the voltaic battery Here, however, to obtain the oxygen necessary for its combustion, the zinc has to dislodge the hydrogen with which the oxygen is combined The consequence is that the heat due to the combustion of the metal in the liquid falls short of that developed by its combustion in air, by the exact quantity necessary to separate the oxygen from the hydrogen Fully four fifths of the total heat are used up in this molecular work only one-fifth remaining to warm the battery It is upon this residue that we exclusively depend, for it is solely out of it that we manufacture our electricity

So ruinously expensive is this process of burning zinc when the electrical engineer is called to develop large powers, that the world waited, as I have said, until it was discovered that those other and greater storage batteries, the coal beds, which represent the activity of ages past, might be pitted against the waterfalls, which represent Nature's activity of the present, in a grand competitive effort to provide man with a magic wand in response to which all the mighty forces of the sunlight and the ocean would marshall themselves to do his bidding

It was some time before the electrical engineer acquired confidence in his own ability to produce and distribute successfully the high pressures demanded by many street lamps in series, and to handle the lower potentials when expended at the rate of hundreds or thousands of volts for each ohm of conductor or translator resistance

The coming of the electric arc lamp, requiring nearly a horse-power of mechanical energy for each large unit of light, and the softer incandescent or glow lamp which only gave from one hundred and ten to one hundred and twenty-five candles of light for each mechanical horse-power, usually in the form of seven or eight lamps of sixteen candles each, demanded an electric current representing 1,000 horse-power for each 1,000 arc lamps required for the lighting of the streets of a city, or each 7,000 glow lamps for stores and dwellings

There is perhaps no more impressive example of almost irresistible power than a modern high speed locomotive and its vestibuled limited express train flying at the rate of a mile a minute between the great cities of the United States The total weight of such a train is from 400 to 500 tons, or from 800,000 to one 1,000,000 pounds, and a speed of seventy five miles per hour is sometimes attained The energy of 400 tons moving at that speed is nearly twice as great as that of a 2,000 pound shot fired from a 100 ton Armstrong gun But these illustrations express a power only about one half of that which was last year constantly required for the lighting of the art gallery at the World's Columbian Exposition by 16,000 incandescent lamps Because under ordinary circumstances the electric current speeds along the motionless conductor without causing a quiver or vibration perceptible to our eyes or ears, we are apt to overlook the fact that its power for great usefulness and instantaneous transmission of a variety of manifestations of energy, when properly directed, is equalled by its ability to do serious mischief whenever it escapes from our control

The possibility of commercially generating electricity on such a scale was only realized when the modern dynamo-electric machine was made practical and by its means the tremendous energy of motion derived from the power of waterfalls and steam boilers was substituted for the feeble combustion of chemic cells The coils of the armature of the dynamo, being forced by the resistless pressure of steam to revolve between the poles of powerful magnets in the field of magnetic force, and in spite of the attraction with which that force opposes the revolution, develop and send out this marvelous agent which we call electricity, not in transitory sparks like the discharge of the Leyden jar, not in an almost microscopic wave like the pulsations of a telegraph or telephone circuit, but in a maintained succession of powerful throbs following each other in such close intervals of time as to constitute a practically uniform flow of any volume we desire, so that we popularly speak of it, for want of a better analogy, as if it were water or gas and moved in tangible particles from point to point

The physician who desires to draw suggestions from the experience of the electrical engineer may profitably reflect upon a few primary truths which he may have known in the abstract, but which may never have been presented to him as possessing concrete importance

1 Electricity is not a source of energy, but only an intermediary agent

2 It has one fundamental characteristic by which we make it available, namely, *pressure*

3 All its useful engineering results are accomplished by the expenditure of this pressure

4 By providing a conducting track or circuit of considerable length, two objects may be secured, 1, transformation of energy, and 2, transference or transmission of energy

5 The electrical pressure is expended in every part of the circuit (including the mechanism of the generator) in direct proportion to the resistance encountered

6 It thus becomes possible to transmit and localize the expenditure of the electrical equivalent of the initial mechanical energy with which we start out, at any point or points desired, always considering the inevitable losses which take place in transformation and transmission, and to vary those losses within any limits which conditions of safety and of commercial investment may permit

Let us discuss each of these statements with some care

The engineering practitioner does not recognize in electricity a source of energy He realizes that to obtain it he must expend some initial force that costs him money, and can never expect to recover all of what has been thus spent He is not able to make electricity available to him as a force which directly completes any useful operation Perhaps there may be those here who can tell me whether in the application of electricity to the human mechanism, the mysterious agent is itself directly effective, or whether it can be relied upon only to convey to the proper point a potent energy, so flexible, so obedient to known laws, that the intelligent physician can predict the result of its transformation to heat, to chemic action, or to some other desired manifestation of what may be, for aught we know, a single all-pervading energy

In the everyday application of electricity to commercial problems of distribution, it is an intermediary agent, having two great features of utility 1, it transforms or translates one manifestation of Nature's forces into another, 2, it transfers energy (while in the intermediate state which we call electrical action) from point to point instantly As an intermediary agent it is thus both a skillful magician and a swift winged messenger By its action, one manifestation of natural power, as for instance the motion of a waterfall, disappears and in its stead another and more useful manifestation of heat, light or chemic action is developed either in the same place or a different place, as we desire When we wish it to transmit or transfer power, we connect with the source of energy a suitable path in the form of a material which readily conducts electrical impulses and we find the power appearing at the objective point before we can realize that the transmission has taken place Wherever, in the path thus provided we wish to do useful work, we place an obstruction which the electricity must overcome and in the operation of surmounting such an obstacle a part or practically the whole of its energy may be expended While we can not tell what electricity is we can say that for the purposes of practically generating and controlling it, it has but *one element*, namely, a "pressure" "strain," or "tension," which in systems of electric lighting for example, is steadily generated by the dynamo, which is the mechanism in which the electrical force first appears, and that it is as steadily expended in the "circuit" or path by which we connect the outgoing and the incoming terminals of the dynamo, and with such instantaneous effect that the moment we connect such a source of power with a conductor forming a complete circuit, the pressure has traversed the entire path and has spent its entire force At every point in this path, or, more accurately, between any two points, no matter how large or easy this path may be, we find that some fraction of this total pressure has been expended in exact *proportion to the opposition it has met or in other* words to the resistance it has encountered As long as the connection with the source of power is kept up, this generation and expenditure may be maintained, the instant we break the connection at any point in the complete circuit all action ceases, because the electrical pressure generated before the break occurred has been instantly used up or transformed into some other form of energy, such as heat, light, magnetism, chemic action or motion The portion of the initial pressure which is inevitably expended between the point where it is generated and the point where it is made useful in a "translating device" is transformed into heat and disappears, thus being, so far as any useful result is concerned lost or wasted Hence the loss of pressure in transmission is often called "drop" in pressure, and the energy thus lost is known as "heat waste" The translating device may be a lamp, a heater, a motor, a plating bath or a magnet, in short, any mechanism within which the energy of electricity may be translated or transformed to some other serviceable form of energy

Thus the function of all electro-generative apparatus applicable to systems of distribution is to develop or maintain, or both a useful difference of potential between its terminals If a direct current is to be interrupted or pulsatory, the potential difference may be momentary or transient, if the current is to be continuous, whether variable or constant in its strength a useful potential difference must be *sustained in spite of the opening of an outlet* by the completion of a circuit, and the resulting tendency to a reduction of difference of potential to an equilibrium, with the expenditure of the initial potential

It is difficult for us to conceive of the rapidity of electrical action Whether we consider the transformation of chemic action or mechanical force into that form of molecular tension or pressure or strain which we call electro-motive force, or whether we think of its expenditure through a conducting path which forms a complete circuit we have, so far as our senses can discern, instantaneous conversion to electricity, and instantaneous expenditure resulting in heat, light, magnetism, chemic action or motion

We can not then measure the rate of the expenditure of E M F in *time* (so many volts per *second*), but we can measure its rate of expenditure in the *resistance of the circuit* (so many volts per *ohm*), and this rate of expending volts in each ohm is what we call the current or amperes

When we develop electrical potentials we expend a measurable power, but afterward if the potential is not expended (that is if the charged body is perfectly insulated, by surrounding it by *material which offers* infinite resistance to oppose the pressure), no power is required to maintain it Hence, in doing useful work it is not the first development of the potential which costs the effort or the money, but the maintenance of the potential when the restraining resistance is lessened and we allow the potential to escape or equalize itself at any rate (per ohm) which we desire

The result secured in useful power from the expenditure of a maintained E M F, varies directly as the rate of expenditure in each unit of resistance or in other words directly as the amperes

Thus the "volts" considered alone do not express the power required for generation nor the power recovered in some useful result Doubtless every one here present has often noted the very small power required to develop a frictional spark, yet that spark may represent a voltage far beyond that of any direct current dynamo now operating arc lamps in this city In order to expend itself it has to overcome an enormous resistance in the form of an air space, and the rate of expenditure of *volts per ohm of this great* resistance is so minute that we have perhaps no instrument except the telephone which can detect it and we can not *even then measure the infinitesimal rate in amperes*

Nor is it the "amperes" alone which become a measure of the work done Every member of this Association may have noted the uncertainty of attaining a current of a given number of milliamperes by the application of a given number of cells of battery in the treatment of any given tissue The battery may be in some cases justly loaded with its share of blame because it may at any moment fail to develop its usual voltage, but you are dealing with an unknown, or only approximately known or even a variable resistance and the expending of 10 milli volts per ohm (which is simply another form of expression for securing a current of 10 milliamperes) gives very little idea of the electrical power which is being expended in that part of the circuit formed by the tissue under treatment

The rate of expending energy or doing work between any two points in an electrical circuit is known only when the total potential there absorbed or expended is found and multiplied by the rate of such expenditure in each unit of resistance between the points considered *That is, it is only* known when volts are multiplied by amperes, and is expressed by the resultant "watts" Here, in electrical distribution, we have the basis of a measurement of energy necessary to keep up the battery or turn the crank or pulley

But the watts give only a *rate* of doing work To know what *aggregate* work is done, we must add another factor, time And so the physician should be able to record the three factors—*volts, ampères* and *seconds*, which alone can give the "joules" of energy expended or work accomplished either in heat developed, or chemic action stimulated The time is at hand when by a single instrument, self recording, the skilled electrical specialist may read on a tape (with the ease that cable operators now read by the siphon recorder of Lord Kelvin) the record of each application in total potential applied, rate of expenditure of volts in each unit of body resistance, variation of such resistance under the application of the electric energy, and duration of treatment

In the distribution of electrical energy from a generating source to translating devices, the electrical engineer utilizes the laws to which I have referred by connecting the translators in one of two ways

1 In series, so that the same current passes *successively* through all the devices

2 In multiple arc or parallel, so that the entire current passes *simultaneously* through all the devices, each of which receives a *fraction* of the total

The series or successive arrangement is roughly indicated in the upper diagram of Fig 1 At the left of this diagram, I have indicated the generator by an upright spiral extending from a zero line at the base of the diagram to a line marked 400 and then bending over to the right and falling to an elevation of 300 By this I design to indicate that in the armature coils of the generator a total E M F of 400 volts is generated, and that under the conditions assumed, 100 volts is expended within the armature itself, leaving 300 volts to be usefully applied to outside distribution The line extending to the right from the upper extremity of the spiral (at 300 volts) indicates a conducting wire, and the fall of the wire from the 300 volt line indicates that 50 volts have been expended in this division of the circuit The two heavy vertical lines with a small space between them indicate the carbons of an arc lamp, and it is assumed that 50 volts additional is expended in this lamp, causing a sudden drop of the potential to 200 volts Beyond this lamp comes another length of conductor, a second lamp, and a return conductor twice as long as each of the two upper sections of the line, and occasioning twice as much drop, or 100 volts This brings us back to the zero point or negative terminal of the dynamo, and for convenience of illustration I have shown near this negative brush a current indicator standing at 10 ampères, which is assumed to be the normal current of the circuit here illustrated The denominators of the several fractions (which are written in black) indicate the number of ohms resistance assumed to exist in the various parts of the circuit, 10 ohms in the armature coils 5 in each upper division and 10 in the lower division of the line, and 5 in each lamp, 40 ohms in all As it is assumed also that 10 volts is expended in each ohm (that is, 10 ampères of current flows) the number of volts indicated in red and to which I have already explicitly alluded, is found by multiplying the number of ohms by ten It will be understood that I am here illustrating the law of series distribution by assuming an exaggerated case No competent engineer would provide or recommend a dynamo in which would be expended 25 per cent of the total energy produced, nor a conducting wire which would cause a drop of 50 per cent of the total E M F generated It is, however, customary to use for series arc lamp circuits a size of wire which has a resistance per mile of about 5 ohms

The middle figure of this diagram is intended to illustrate the same system after two or more lamps have been added, and while the dynamo is generating the same total E M F of 400 volts The only difference in the resistance of the system as thus modified is the additional 10 ohms introduced by the two new lamps, but this modification is sufficient to cause an entirely different distribution of the fall of potential As the resistance of the entire circuit is now 50 ohms, the total 400 volts must be expended at the rate of 8 volts per ohm, and the ampere meter accordingly *indicates* 8 amperes There is 80 volts drop in the armature, 20 volts in each of the four upper divisions of the line wire, 80 in the return and 40 in each lamp, under the assumption that although the current is reduced, the lamps have maintained their original resistance of 5 ohms This reduction of the current flow causes an abnormally small light in each lamp, and it becomes necessary to take some action to restore the current flow to the normal standard of 10 amperes

This restoration is accomplished by the process of regulating the generative capacity of the dynamo, or in other words causing it to generate a sufficiently higher total E M F so that the fall of potential through each division of the circuit may be restored to 10 volts per ohm This result is indicated in the right hand of the three sketches which constitute the upper diagram The spiral indicating the generating coils is extended upward to show that it now generates 500 volts, of which 100 is absorbed within itself and 400 is expended in the outside circuit at the rate of 10 volts per ohm The ampere meter again indicates 10 ampères From this it also appears that the dynamo attendant may be guided, in the operation of a series system, entirely by his ampere indicator, the current being the constant factor in the operation of such a system

It may be convenient in this connection to summarize the peculiarities of the series method of distribution

Constant Factors
1 Expenditure of E M F (amperes)
2 Dynamo resistance
3 Dynamo internal drop
4 Line (conductor) resistance
5 Line drop
Variable Factors
1 Number of translators (and hence resistance)
2 Resistance of *individual translators*
3 E M F generated

It will be noticed that in the above summary I have stated that the resistance of individual translators is variable, though in the diagram it has been assumed to be constant in order to simplify the illustration

The action of a series electrical system may perhaps be better understood by noting the very general analogy which is afforded by a system consisting of a hydraulic pump and water wheels connected by a closed pipe so as to form a system in which a given quantity of water circulates perpetually Whenever work is done by turning the pump, and thus producing a difference of pressure between the receiving and the discharging side of the pump, the water will circulate through the pipes, and thus transmit in the form of pressure the power which drives the pump, to the wheels where the energy of the pressure will be re converted into useful mechanical motion

Such a form of apparatus is illustrated in Fig 2, where the pipes are assumed to be made of glass Tubes arising from several points in the circulatory system (as for instance from the upper or high pressure side of the pump at *A*, also from the pipe *B* beyond the first wheel, also from a point *C* on the pipe beyond the second wheel, and at *D*, representing the level of the return pipe) will show the water standing at the same level in all the pipes while the apparatus is at rest, as indicated by the line of equilibrium L^0, in the left hand diagram When, however, the pump is rotated the water will stand at different levels in the different tubes as illustrated in the right hand diagram, ranging from a high level, L^1, at the high pressure or discharging pipe of the pump *A*, gradually dropping at L^2 and L^3 in the tubes *B* and *C*, as it passes through successive wheels, losing some pressure at each wheel, to a low level (indicated by L^4) at the return pipe where the tube *D* is attached, when all or nearly all the pressure due to the action of the pump has been expended

The difference of level between the highest and lowest points (*A* and *B*) indicating the total drop in pressure (neglecting the small drop in the return pipe), will represent the available pressure for distribution and for useful work, corresponding to the potential difference or voltage in the electrical system of Fig 1 In case all the wheels were close to the pump, no perceptible loss or drop would occur in transmission from the pump to the first wheel, or between the wheels, or in the return pipe The product of the difference of pressure between a point above and a point below one of the wheels, multiplied by the volume of flow (which indicates the rate of expenditure of such pressure) is the measure of the energy expended in operating each of these useful devices Any break in the pipe or interruption of *one motor stops the action of the whole system*

Thus illustrated, we conceive of electricity as completely filling the system of generation, distribution and translation, whether it is moving or at rest We neither create it nor destroy it, any more than we create or destroy the water in the pump system, we simply start the dynamo and thereby disturb the equilibrium of the electricity which we assume pervades the whole system, and we thus give it pressure or head This pressure results in motion or current (so-called), and this pressure is expended (or as we say, a drop is produced), at every point in the entire circuit in proportion to the resistance which the pressure encounters, some of it being expended in "internal drop," that is, in the generating mechanism, some in "conductor drop," and a large percentage (in a well organized system) in useful "work" by the translators The same current which starts out from the dynamo returns to it after being deprived of its pressure to receive another charge of energy and start again to repeat its work The "work" expended in the translators, added to the ' conductor drop," is equal to the difference of potential or "voltage" at the terminals of the dynamo, and this voltage multiplied by the "current" or rate of expenditure of the potential in unit resistance, shows the total energy delivered by the generator to the circuit Any break in the conductor, or any accident to a translator (in the series system, which we are now considering) stops the action of all the devices in the circuit, and may interfere with the action of the generator The electricity itself costs us nothing, the pressure is all we pay for

A good illustration of what has proved to be perhaps the best method of effecting the regulation of a series dynamo is afforded by the well known Thomson-Houston type of generator, shown in Fig 3 Here the variation of total E M F is effected by an automatic magnetic device which moves the brushes toward the point on the commutator which represents the highest E M F, or away from that point in accordance with the increase or decrease of the strength of the main current which circulates through the governing coil With such a dynamo, capable of operating for example forty arc lamps in series and thus delivering, a maximum voltage of about two thousand automatic regulation is secured between wide limits, usually from the full number of lamps for which the dynamo is made, down to about the voltage required for ten lamps and the connecting circuit

The second method of electrical distribution which I have called the multiple arc or simultaneous method is accomplished by leading out from the terminals or brushes of the generator to any required distance, two conductors practically parallel with each other, and connecting between them, by parallel cross wires or electrical bridges, two or more translators so that a multiplicity of paths is created for the expenditure of the pressure, and all the translators at any time actively placed in these multiple branches receive simultaneously the proper voltage and a fraction of the total current delivered by the generator Each translator is therefore independent of all the others

This is the reverse of the series method, for in the series system (with a varying load) the proper total voltage varies directly as the number of translators and the proper current is constant, while in the multiple arc system (with a varying load) the proper total voltage is the constant, and the current varies directly as the number of translators In this general statement contrasting the two systems I have not made mention of the conductor drop which for the purposes of this statement is an immaterial factor

In the lower diagram of Fig 1, a multiple arc system is indicated under three conditions corresponding with those of the series system which forms the upper diagram of the same figure In the left hand sketch the spiral indicating the generator coils is much shorter than that of the series generator immediately above illustrating that under ordinary circumstances the standard of voltage delivered by a multiple arc generator is much lower than that of a series generator operating the same number of translators With two 50-volt lamps I have assumed the total E M F produced by the dynamo to be 110 volts, the resistance of the armature the outgoing conductor and the return conductor to be 1 ohm each, while that of the lamps is the same as in the series system 5 ohms each But instead of offering a total resistance of 10 ohms as in the series system, the two lamps in the multiple arc offer only 2 5 ohms hence in order that the same percentage of the total E M F may be expended in the distributing conductors, the resistance of hese conductors must also be greatly less than those of the eries system having the same length I have illustrated his idea by assuming that these multiple arc conductors have a total resistance of only 2 ohms instead of 20 ohms as n the series system As each lamp requires 10 amperes he total current is 20 amperes Proper action of this system is indicated by a volt meter connected at a point on the circuit near the lamps through pressure wires, and showing o the dynamo operator the normal working conditions

The middle sketch illustrates the re adjustment of potential which happens when two more lamps are connected in multiple arc, and the total E M F is not changed Instead of increasing the resistance of the outside circuit (as was the case in the series system) this addition of lamps decreases it from 2 5 to 1.25 ohms, and consequently this lamp division of the circuit causes a less number of volts of the same total E M F to be expended The diagram shows that the pressure has dropped from 50 to 32 volts at the lamps, and this change is instantly indicated by the volt meter to the dynamo operator

Regulation in this system consists in so increasing the total E M F that the lamp voltage shall return to 50, and in the right hand sketch we see the conditions which exist when this result has been accomplished The current has risen to 40 amperes, which is equivalent to saying that it has been restored to the normal standard of 10 ampères per lamp, but in these multiple arc cases it has not been necessary for the dynamo attendant to concern himself about the ampères delivered, but only regarding the volts supplied to the translators operating in parallel

We may here summarize some of the peculiarities of the multiple arc method of distribution

Constant Factors
1 Available E M F at translators
2 Dynamo resistance

Variable Factors
1 Number of translators (and hence resistance)
2 Resistance of individual translators
3 Dynamo internal drop (with varying load)
4 Resistance of line (conductor) with length in use
5 Conductor drop (with varying load)
6 Current

Such a parallel system of distribution may be made clearer by a second hydraulic analogue which appears in Fig 4 Here each water wheel is assumed to require an amount of water equal to that supplied to each wheel in Fig 2, hence the total volume of flow or current of water is three times as great in this parallel system as when the same water is used repeatedly by one wheel after another In Fig 2 a triple pressure is expended in three equal fractions in but one channel The mechanical energy necessary in Fig 4 to maintain a low pressure expended in three different channels is the same as that required in Fig 2 to maintain three times the pressure expended in one channel In other words, the product of the three fold pressure by the unit current required for the series wheels of Fig 2 is equal to that of the three fold current by the unit pressure required for the multiple arc wheels of Fig 4 such pumps and pipes as are necessary for equal economy being assumed

In the left hand sketch of Fig 4 the system is shown at rest or in equilibrium, and the water in the various pressure tubes is at the same height *I* The right hand sketch illustrates the difference in the height of the water in the pressure tubes *I*, *G*, *I*, *H*, when the system is in operation This difference is partly due to the fall in pressure which occurs between the opposite ends of the same main pipe, for example, the tube *I*, at the end of the upper pipe more distant from the pump shows a lower pressure I^2, than is shown by the tube *I* at the pump terminal I^1 and illustrates a fall by friction in the pipe which is analogous to the fall in the conducting wires of Fig 3 The difference in the height of the water in the two right hand pressure tubes *I*, *G* is the result of the fall of pressure from *I* to I^2, which occurs in doing the useful work of turning the water wheels Any one of the wheels may be stopped by shutting its individual valve or gate, which action corresponds to the breaking of a branch wire in the electrical system of the lower diagram of Fig 1 by which each translator is turned on or off In case one wheel is disabled or its individual branch pipe is broken none of the other wheels are affected The pump is adapted to give a low pressure but to throw a large volume of water through the pipe which is materially larger than that of Fig 2, and as is the case in the electrical system of Fig 1, the action of the pump may be modified so that just the proper pressure is delivered to the wheels at all times

The multiple arc arrangement has been used for many years It has been said that it was even utilized by Prof Moses G Farmer in an experimental plant operated by him at his home in Salem Mass thirty years ago or more So far as I know, the earliest publication which specifically describes this parallel arrangement was a French patent granted to M de Khotinsky in 1875 Fig 5 is a reproduction of two of the drawings of that patent made more clear by the use of red lines for the positive and blue for the negative conductors and by arrows indicating the direction of the current The incandescent lamps which are described in this patent are here shown as conducting strips connecting the positive and negative branch wires, and it is evident that the main current sent out by the dynamo divides itself between all the lamps or bridges of the system

The lower diagram of Fig 5 shows an arrangement evidently supposed by Khotinsky to be the equivalent of a circuit entirely of wire, in which the earth forms the return Actual practice has shown that while this use of the earth and its connections is practical for such small currents as are necessary in telephone, telegraph and similar work, there are serious difficulties encountered when the larger currents of electric light and power systems are expected to find their way back to the dynamo without continuous metallic conductors

Following along the history of development of the multiple arc method of distribution, it is interesting to observe what was proposed in connection with incandescent lamps by Mr Lane Fox, an English experimenter, and described in two British patents of 1878 Mr Lane Fox seems to have clearly appreciated the idea that in order to properly operate incandescent lamps it was desirable to supply them at all times with a practically constant voltage, and to connect them in multiple arc in order that they might be separately controllable Thus they would avoid one of the difficulties of a series arrangement, which is that when one lamp is put out or fails to operate it tends to break the entire circuit and thus stop the operation of all the rest The idea of Mr Lane-Fox was to arrange a network of positive conductors on the principle shown by Khotinsky in the second of the diagrams I have reproduced, so as to keep up a steady pressure from all points of these conductors to earth, and thus force through each translator connected from line to ground, such a current as its resistance would allow to pass If he knew of Khotinsky's arrangements he doubtless appreciated the fact that no provision had there been made for reducing the output of current by the dynamo when lamps were extinguished, because Khotinsky set forth a means of intro ducing an equivalent resistance into any circuit whenever its lamp went out Lane-Fox suggested an automatic regulation of the dynamo by a mechanism which governed the throttle valve of the steam engine which rotated its armature Foreseeing that there would still be a probability of a lack of uniform pressure throughout a large system, by reason of the drop which would occur even in very large conductors, he also proposed to place at different points through the district, storage batteries which should be charged from the central station during times of small load, and discharged when the requirements of the increasing load had reached a predetermined point By means of this automatic dynamo regulation and this reinforcement by storage batteries he thus attempted to secure constancy of voltage delivered by the dynamo to the circuit, and uniformity of voltage (at one lamp with relation to other lamps) throughout the entire area While neither of these methods has proved to be desirable in practice, the disclosure of them at the date of his patents showed a remarkable insight into the subject of electrical distribution

The next material step in advance was made by Mr Edison and described by him in patents applied for in February, 1880 One of these was granted in Great Britain in August of the same year, and the corresponding United States patent issued in 1887 Fig 7 gives diagrammatically an illustration of the connection of several dynamos in multiple arc to a single pair of "omnibus wires" from which the main conductors of the distributing system are taken In this original arrangement preference was given to vitalizing the magnets of the main generating dynamos by means of a special excitor, the field of which was in its turn excited by a battery Later experiments showed that the main dynamos might with equal success and greater convenience be excited each by its own armature To the omnibus wires, or to any portion of the distributing conductors, by means of "pressure wires" coming back to the station, was attached a galvanometer, or a test lamp, or some other means of indicating when the pressure delivered to the system was at a proper standard One of the great steps taken by Mr Edison in the perfection of this comprehensive plan by which a greater or less number of dynamos might be connected or disconnected in multiple arc, and might supply through outgoing and return metallic conductors large numbers of translators, was a special construction of the dynamos The cardinal features which made these dynamos successful for this use were the reduction of the armature resistance to an exceedingly low point with relation to the joint resistance of the translators and the distributing conductors, also the construction of massive magnets, excited to a moderate degree by a small amount of electrical energy, and in this condition capable of a marked increase or decrease of their magnetism by a small variation of the exciting current It is now clearly understood that the combination of these features constitutes one of the essentials in a system of multiple arc distribution, and this combination, the reduction of the internal resistance and the adoption of magnets of great mass, was for some time recognized as one of the wonders of electrical distribution Such advances quickly become matters of course, in the rapid advance of such an art

The regulation of a voltage delivered to the translators by the Edison type of dynamo solved the problem of securing constancy of potential which Lane-Fox had seen to be an essential of multiple arc lighting The question of relative uniformity had occupied Mr Edison's attention even earlier than the publication of his comprehensive multiple arc plan It was clearly outlined as a problem and a clear solution was indicated, in a caveat filed in the United States patent office in August, 1879 The method is outlined in Fig 8, and consisted in the division of the territory to be covered into fractional consumption circuits each separately supplied from the central station by conductors having no translators directly connected Thus in a system so large that it would be impracticable to supply it from one end on account of the size of the conductors necessary to carry a large current over a long distance to many lamps, it became feasible to secure the proper standard of pressure at each of several different points distant from the central station, and to make the drop beyond those points from the nearest to the farthest lamp of each fraction of the consumption circuit, so small that each lamp would give practically the same light as every other It also became possible to cover large areas by economical amounts of wire because the drop which occurred between the dynamo and the nearest lamps might be made anything that the engineer might desire, without affecting the relative action of the lamps In this plan a pair of pressure wires was to be led back from each point or center of distribution and attached to a pressure indicator in the central station

In this same caveat is disclosed a method of automatic regulation of dynamos for constant potential, which has been found the most reliable and satisfactory for many uses of any system ever proposed This method consists in equipping each dynamo with two magnet coils, one of which, usually called the primary or initial coil, excites the magnet to a degree merely sufficient to deliver at its brushes the standard of pressure required by the translators before any load is connected to the conductors This primary coil may be brought from a separate excitor or taken from the brushes of the dynamo itself as a shunt to the outside circuit The other coil (wound in the same direction) is of coarse wire and connected in series with the translating circuit, so that all the current which is intended for the translators shall pass through it Thus as a greater amount of current is demanded and sent through this series coil, an increasing magnetism is induced which is sufficient to maintain the voltage practically constant at the translators, by increasing the total E M F to such an extent that the resistance of the armature and of the outside conductors may be overcome and a proper number of volts still be left for normal operation

(To be continued)

Proceedings of the First Meeting of the American Academy of Railway Surgeons

Held at the Grand Pacific Hotel, Chicago, Ill , Nov 9 and 10, 1894

(Continued from page 409)

NOT A CASE OF "RAILWAY SPINE"

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GALION OHIO
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Railway surgery without the spinal malinger would be like a ship in mid ocean bereft of her sails and her rudder It is a question too, if we would not all lose our jobs if he did not exist, although it is claimed that our employment is a matter designated as being for sweet charity's sake, the court records show that the charity part of it is very much similar to the church donation of a candidate for a political office—sort of a "cast your bread upon the waters" affair

It has been my privilege to examine and assist in the caring for many cases of spinal injury, and I might add, numerous cases of "supposed spinal injury " Out of the list, I wish to call your attention to four cases that have seemed to me to be very interesting, inasmuch, as they pretty well cover the different forms of injury sustained by the spinal column, namely, fracture without displacement, complicated with severe injury to the soft parts, resulting in recovery, apoplexy of the spinal cord, resulting in death, fracture with displacement, resulting in death, fracture and dislocation, resulting in good recovery

Case 1 —S , aged 19, Irish, scrofulous, has had large abscesses on both sides of the neck, no history of syphilis, either hereditary or acquired, not an employee of the company Please remember this

In attempting to step on the front end of a moving switch engine, he misjudged the distance and went under the engine, being rolled between the front trucks until the engine could be stopped, which was probably a distance of thirty feet

Examination a few minutes after the accident occurred revealed a comminuted fracture of the right forearm, about two inches above the wrist, contusion of inside of left foot, dislocation backward of left hip, with fracture of the acetabulum, the spinous processes of the lumbar vertebra were simply crushed flat with slight curvature of the spine to the right The soft parts over the lumbar and upper sacral region were badly contused and fairly bagged with coagulated blood There was no paralysis of the motor or sensory nerves affecting either the limbs, bladder or rectum The case progressed nicely The coagulated blood was taken up, and with the exception of the deformity resulting from the hip injury, he is as well as ever This would have been a typical case of "railway spine" had not the patient been wholly responsible for the accident

Case 2—H T aged 36 years, well developed, strictly temperate July 3, 1880, his carriage was struck from behind by a runaway team, and he was thrown a distance of thirty feet, alighting on his head and shoulders In company with my father, Dr H R Kelly, I saw the case one hour after the accident occurred He was conscious, and had been ever since the accident happened, there was a large scalp wound of the posterior part of the head, but no indentation of the bone, complete paralysis of the lower and partial paralysis of the upper extremities The paralysis of the lower was of both motion and sensation, and was entire that of the upper was only partial, and was more marked upon the right than upon the left side There was also very slight paralysis of the intercostals Failed to find any fracture or displacement of the vertebra However about the seventh cervical there was some tenderness and a slight amount of ecchymosis He suffered very little pain, in fact all the pain he had was occasioned when his head was considerable elevated Diagnosticated the case as one of apoplexy of the spinal cord and the prognosis unfavorable

Dr Rosenthal, in his excellent work on "Diseases of the Nervous System," in speaking of apoplexy of the cord says "Consciousness, speech and the functions of the special senses are frequently unaffected It is only in abundant hemorrhages of a rapid course and especially in those of the cervical region, that momentary loss of consciousness occurs The paraplegic limbs most frequently also lose their sensibility The anesthesia usually extends upward to the upper half of the back and of the abdominal region Reflex excitability is preserved or even increased at the beginning, but it rapidly disappears when destruction of the cord occurs in a transverse direction, and especially in the gray matter The paralysis also involves the sphincters, retention of urine and constipation occur in the beginning, but are soon followed by involuntary evacuations The muscles which are insensible to mechanical stimulation and to the will, have also lost their electrical contractility Cline has observed this abolition of muscular excitability upon the very day of the attack Bed sores and erythema make their appearance When the fatal termination is delayed it is caused by progressive extension of the paralysis by abolition of the vegetative functions, by bed sores, cystitis, pyelitis, and the final febrile exacerbations which accompany these complications The duration of the disease may be counted by hours, weeks, or even months'

July 4 Found him in about the same condition to day as yesterday He has not evacuated his bladder As he suffered a rupture of the urethra about a year ago, we at once attempted to pass a rubber catheter but failed We then tried several catheters but were unsuccessful The stricture had closed down very tightly, and there also seemed to be a curve in the canal through which it was impossible to pass anything Being afraid of wounding the paralyzed urethra, we desisted and left him until the following morning

It was now nearly forty eight hours since his bladder had been emptied, and as we were again unsuccessful in introducing a catheter we thought it best to resort to aspiration The needle of a Dieulafoy aspirator was plunged into the bladder about two inches above the symphysis pubis and about two quarts of urine withdrawn The operation was an entire success, as not a single bad symptom followed

We succeeded next day in breaking through the stricture with a No 8 Van Buren and Keyes' silver sound After which a catheter was successfully introduced, and his wife,—who, I think, was the best nurse I ever saw—was able to catheterize him from this on Once in a while the parts would become more relaxed, at which time there was a continuous dribbling of the urine, and at these times his sphincter would become very much relaxed Although we were very careful with his bedding a large bed sore made its appearance over the sacrum It was surprising with what rapidity these paralyzed parts sloughed out He remained in this condition until August 13, when he was taken with a severe chill followed by a high fever His friends were very anxious for counsel and Dr Hamilton, of Columbus, was sent for After carefully examining the patient he was unable to give any hope for recovery Patient remained in about the same condition until September 23, when he died On account of the great sloughing, nearly every one of the lumbar vertebræ and the sacrum were exposed to view Until the second day before his death, there had been no operation of the bowels for sixteen days

Necropsy—Twelve hours after death, in company with Dr Ridgeway we examined the vertebral column and his spinal cord with the following result Beginning at the cervical region extending to the first lumbar, we were unable to discover any fracture or displacement of the vertebræ The membranes were found to be in almost normal condition until we came to the eighth dorsal where they became very much thickened and hardened When the membranes were divided and the cord itself exposed a different state of affairs was found to be present Beginning with the first dorsal and continuing throughout the whole length of the cord, it was found that there had been complete degeneration from the first to the fifth dorsal, the gray more than the white, and more upon the right than the left side The cord was so soft that we were compelled to be very careful in handling, lest we might not be able to finish the examination From the fifth dorsal to the terminus it was very hard and when cut open gave that characteristic sound produced by cutting a scirrhus cancer About the third or fourth, and also at the seventh dorsal vertebræ were evidences of a hemorrhage These spots were distinctly marked As we were not prepared to examine the specimen microscopically, this was all that we were able to learn from the examination

Although this case, strictly speaking, was not one of railway injury, it was just such a case as might occur at the time of a collision

Case 3—F M aged 30 years German, switchman, moderately good habits In attempting to get on back end of switch engine the hand hold pulled out and he went under the engine The engine was stopped as soon as possible when it was found necessary to uncouple the tank from the engine to get him out, as he was wedged in back of the fire box I saw him a few minutes after the accident occurred and found the following symptoms

Complete paralysis of both sensation and motion below the dorsal region, complained of sharp pains and tingling sensation extending to soles of feet Examination of spinal column revealed an apparent separated condition between last dorsal and first lumbar The first lumbar seemed to have a fracture extending through the body, causing some compression from the left side I use the term, seemed for the reason that the fracture was not perfectly plain The last dorsal was dislocated forward The space intervening between the vertebræ was the width of the thumb The case progressed from bad to worse, cystitis in an aggravated form starting up about the third week The limbs became edematous Ulcers formed over the sacrum thighs calves of legs and the feet themselves almost separated from the body The man lived for several months, finally dying from sheer exhaustion, after wasting away to a mere skeleton

A post mortem examination was not permitted, as the family desired to bring suit for damages, which they afterwards did, recovering something like four thousand dollars

Case 4—This case came under our care while I was absent from the city, and I am indebted to Dr H R Kelly for the early history P N, aged 23 years, engine wiper, good habits, formerly farmer Was down under engine wiping when hostler attempted to move the engine He was doubled up and wedged under the engine in such a way that it was almost impossible to get him out without jacking up the engine Examination revealed a dislocation backward of last dorsal vertebræ, the deformity being fully one half inch The first lumbar was fractured through the body There was paralysis of the motors below second lumbar nerve roots, which affected the bladder and rectum to a certain extent The sensory system seemed to have escaped It was necessary to use the catheter for about three weeks, very little dribbling of the urine however, ensued Great difficulty was experienced in moving the bowels The knee jerk was present The case progressed favorably and at the end of several months he was able to get around some At this time, some ten years since the accident, he is able to work at the carpenter trade I find pronounced lateral curvature which is so distinct that it is noticeable even when he is dressed for the street The gait is straddling and labored The sensations are good, and I am told his only difficulty is in locomotion

This, gentlemen is a brief history of four cases that have interested me, and I hope will call forth the experience of many other surgeons The treatment has been purposely omitted in these cases, as it was the intention to show only the symptoms in certain conditions

DISCUSSION

Dr Milton Jay, of Chicago—Any surgeon who has had much to do with railways for any considerable length of time must have had some injuries that involved the spine To the railway surgeon the name of "railway spine" is a deep term, and I believe it is no longer used, for the reason that it is made to cover all injuries of the spine up to traumatic neurasthenia It is easy enough to give a name, but to determine the exact condition of an injury to the spine is frequently exceedingly difficult, and it requires a high order of skill and of scientific attainments to accurately diagnose spinal injuries in the majority of cases We can have as many different kinds of spinal injuries as of any other organ of the body We may have injury or involvement of the posterior or lateral columns of the cord Nowadays a knowledge of physiology and of the pathologic conditions will enable us to determine whether or not the spinal cord is injured If there be complete paralysis of any part it is positive evidence that the cord is injured, or else there is compression of the cord either by an effusion of hemorrhage, cerebro spinal fluid or by compression of bone I believe it is the duty of railway surgeons, when there is anything like paralysis of the spinal cord, to investigate very closely at the seat of injury, provided that injury has been along the spinal column, to know if the compression consists of a depressed portion of the vertebræ If so, it is good surgery to elevate the depressed portion, I do not care whether it is the lamina, the transverse or spinous processes If absolute compression exists, the paralysis can not be relieved until the depressed fragments are elevated If there is an effusion, tap it If the spinal cord itself is injured, that ends the case The spinal cord, when severely injured or torn asunder, presents a condition that we can do nothing for

As railway surgeons, there is nothing that is probably of so much importance as the medico legal aspect of spinal injuries Out of twenty cases of lawsuits brought to recover damages from railway injuries, fifteen of them will claim to have sustained injury to the spine, even if the spinal cord has not been touched In these cases we should make a careful scrutinizing examination, using the battery with a view to testing the presence of the jerks and reflexes, or the absence of any of them These examinations should be made as early as possible, and the railway surgeon should be prepared when the trial takes place

Dr Reger—I infer from what has been said that in those cases in which there is paralysis after injury to the spine that they never fully recover their functions I had a case two years ago of a young man who finding that he was going to fall, jumped off from the top of a rapidly moving train and fell with such force that it necessitated amputation of the right leg The bones were driven through the soft parts Paralysis of the lower extremities accompanied it—I mean paralysis of motion, but not of sensation Any artificial motion would produce the most agonizing pain in his case, yet he did not appear to move a single toe There was a perpendicular fracture of the first two lumbar vertebræ, and the displacement was almost the fourth of an inch I could feel it distinctly He was a very lean subject, and after the amputation of that limb I supposed the case would go on from bad to worse until he died I applied a couple of narrow padded boards about four inches long to each side of those vertebræ, so that the weight of his body would press the parts together, and applied a plaster bandage over the parts About four weeks after that was done he began to move the toes of the left foot He kept on moving the limb, and continued it for over a year, and finally got entirely well I suppose in this case it was simply an effusion that pressed upon the cord, and that no part of the bone had touched the cord or its membranes

Dr Jay —Where was the fracture?

Dr Reger—The first and second lumbar vertebræ

Dr Harnden—I have an idea that this subject is pretty well threshed out, and that I can add very little to what has been said, but I wish simply to call attention to one quotation which I made in my paper, that of Dr Pope, of a collection and tabulation of 120 cases of spinal injury, in which 99 out of this number, he said, were tinged with the coloring of imposition I think the subject has been very thoroughly handled of late, it is still engaging the attention of the surgical world, and I believe the more we study this subject the more will it be demonstrated that this element of imposition or fraud is a powerful factor in these cases, and that we should as railway surgeons study to eliminate this element as far as possible During the war, through some method or process, I know not what, we killed off and buried out of sight the whole element called general debility We have not heard of it in recent years, and I think now through an evolutionary process we are going to kill off the neurosis called "railway spine" Probably Erichsen never did a more foolish thing, or one which will dim the luster of his renown in the ages to come, so much as the one thing of inventing the term "railway spine" No physician uses it by itself today I think, beyond any question, that the railways will be greatly benefited through the efforts that have been made by railway surgeons during the past three or four years to illuminate this mysterious subject I think it is the common experience of the medical gentlemen present to meet with this bugbear in their private practice A man or woman falls down on a slippery sidewalk, and has prospective damages in view against the corporation of the city Immediately follow the symptoms, which are developed as a general thing by auto- or hypnotic suggestion or otherwise The patient will complain of pain in the back, which is the primary symptom usually met with, and although he does not strain the ligamentous attachments of the spinal column or at any rate, the muscles of the back, the lumbar muscles, or otherwise, yet that symptom is of importance, developing into something tangible It is our duty in railway injuries, especially as surgeons in attendance upon these cases, to be on the alert, to be cautious and quick to detect the incipient symptoms of this "spook"

Dr Scott—This paper should have brought out, I think, more discussion in regard to genuine injuries of the spine, and I only wish I were better prepared to discuss it We must not lose sight of the fact that we do have genuine injuries and serious ones of the spine, that many of them are fatal within a short time Many of them produce permanent injury, and the Doctor has given us reports of some cases of that character I have found in my State among railway surgeons that there is a tendency, whenever they run across an injury of the spine, to throw it off and class it among those cases which have been under discussion so much in railway organizations during recent years, and in many instances overlook actual injury to the spinal column or to the spinal cord We must remember that injuries to the bones of the spinal column, injuries to the ligaments, muscles and membrane are not uncommon, and I think that we should certainly give them due attention I remember a case in point that I had a little over a year ago, of a man who was struck in the spine in the center of the dorsal region by the drive rod of an engine The engine was running backward at the time I thought from appearances he was suffering from a contusion, but shortly after paralysis developed, very much as that described in some cases of concussion of the spine I was inclined to think, on account of some remarks the man had made, that he was assuming these symptoms of paralysis, but I afterward found that he was not doing so He finally developed spondylitis I was fully convinced that here was a genuine injury I believe such a mistake is not uncommon among railway surgeons We should remember that in these genuine injuries of the spine the prognosis is not always grave A man will recover every now and then from a fracture of the vertebræ They not infrequently recover from the effects of hemorrhage within the spinal canal provided the hemorrhage is not within the spinal cord itself I do not believe there are any authenticated reports of cases of hemorrhage within the spinal cord where recovery has followed, that is, where it is within the tissues of the spinal cord but from hemorrhage and effusions within the spinal canal between any of the membranes, we have every reason to believe that recovery takes place and it is not infrequent I can recall two or three instances of complete paraplegia where recovery resulted, and where I had reason to think the paralysis was due either to hemorrhage or to effusion

(*To be continued*)

THE
Journal of the American Medical Association
PUBLISHED WEEKLY

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES 10 CENTS
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 86 FIFTH AVENUE, CHICAGO, ILLINOIS.
W. H. LOWDERMILK & CO., WASHINGTON AGENT.

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SATURDAY, MARCH 23, 1895.

AMERICAN MEDICAL ASSOCIATION.

In an organization like the AMERICAN MEDICAL ASSOCIATION, some one is always disturbed. A certain number find great fault with the JOURNAL, others are alarmed at what they call the political ring rule, and others think the ASSOCIATION ethics is a most serious rock of offense. Personal criticism of its officers and managers, is common ground for the display of disappointments and all the various slights and offenses, real and imaginary, that may appear. This is the friction that is a part of all organized movements, and indicates growth and progress which is always very promising for the future. The mutual admiration societies who never differ, who have no conflict of opinions on any questions, rarely accomplish anything for scientific medicine. Societies in which there is no struggle to become leaders or to direct its interests have not much influence in the world. In all live aggressive organizations there is a struggle, a restless movement and constant conflict, in which personalities clash and differ widely, but such differences are simply different points of view, which vary incessantly. This is no reflection on the honesty of the men who may be on opposite sides at different times, but evidence of their independence in thought and act.

To refuse to join the AMERICAN MEDICAL ASSOCIATION because of its ethics or want of ethics, or politics, or rings, or dislike of some one prominent in its management is childishness. The ASSOCIATION is not the product of any ring, or political or ethical standard of faith; it is the representation of American medical science, and of its progress and development. This is not to be measured and marked off from year to year, but to be estimated as the results of years of history. The apparent ring rule of one year disappears the next, the battle over some question of ethics or rule of organization dies out the year following, or appears in some other question and so on, year after year, growing less and less personal, and more and more as a display of restless pent up energies.

The ASSOCIATION goes steadily on, and the solid conservative rank and file keep along undisturbed. Revolutions and sharp innovations are voted down, until the time comes for their free acceptance and indorsement, as the full concensus of opinion by the profession at large. Ambitious men may form rings for their personal advancement, but the soil is unfertile, and the yearly changes of the ASSOCIATION meetings bring new surroundings and new circumstances that are fatal to long success.

This is common every day history of many other associations and organizations, and even of the church. To refuse to join an association because its members differ with each other in minor matters is weakness. To join and take active part, and defend convictions on all matters where differences exist, is manly and scientific. The science of medicine is not advanced and the great truths of nature evolved, by pharisaic criticism and refusal to take part in the struggle that every live society is passing through.

The AMERICAN MEDICAL ASSOCIATION is *National*, and belongs to the entire profession over all the country. If it is faulty in its management, its members are the real sinners. They are the powers who can control; they can unite and regulate any wrong that may exist; the officers and managers are but servants doing their bidding. Sneers and criticisms and refusals to join the ASSOCIATION because of this or that, are absurd and unreasonable.

The ASSOCIATION will go on, and its JOURNAL will appear regularly, entirely irrespective of the opinion or life of any individual. It is organized for the benefit of every medical man, and through its JOURNAL to bring him in touch with every advance of science, and with the work of the great teachers of the world. Its work and influence belongs to all alike; the practical country doctor, and the theoretical professor meet on the same level, and have equal voice in the control of the ASSOCIATION. It should be a source of pride to every physician that he belongs to the NATIONAL ASSOCIATION, and has a part in the growth and progress of American medicine which is destined at a not very distant period to lead all the world. It should be both a pleasure and duty to attend the meetings, and take part in the many questions which are presented in both the sections and general meetings. The larger and more widely extended its membership the more valuable its meetings become. It is from the opinions of physicians from widely differing sections of the country, that great truths are evolved The discussions which follow the reading of papers often contain far more truth and practical suggestion than elaborate textbook chapters Many of the papers read are the most advanced studies of original workers, far beyond the teachings of the last book

This ASSOCIATION was not established for any one class of men, it is for all, and its central purpose is to gather and organize the active workers in every department of medicine, and to create interest and sympathy in every new advance of science It cannot represent the views of any one man, it must reflect the opinions of the entire profession It is a tribunal to which any member may bring his opinions for test and comparison, and may sit in judgment on the views of others It is literally the final court of resort for medical men, and should be most enthusiastically supported by every practical student of medicine

SUNLIGHT AND FRESH AIR

So much attention is just now being paid to the prevention and restriction of tuberculosis, and so sweeping and radical are the measures advocated by those who would "stamp out" the disease at once, that it may be well to pause and try to find out "where we are at" The application of the tuberculin test to every bull, steer, cow, calf and heifer between the Atlantic and the Pacific oceans, as is urged by some enthusiasts, may prove to be no more necessary than the proposed notification of every case of tuberculosis and its suppressive or preventive treatment, as though it were as bad as leprosy or smallpox or worse than syphilis Indeed it is questionable, as has already been intimated in these columns,[1] whether the wholesale tuberculin test may not be as mischievous in its results as the evil it serves to develop—whether it may not fan into flame a general tuberculosis from a latent spark which otherwise might have remained harmless

Much good, however, is undoubtedly resulting from the attention given to the etiology of the disease and its infectious character, and among the most interesting and important of recent results, from a practical standpoint, are those accruing from the researches of DRS SHERIDAN DELAPIN and ARTHUR RANSOME of Owens College, Manchester, Eng, the former Professor of Pathology, the latter Professor of Public Health in that institution These gentlemen have for some time been pursuing an inquiry into the value of the municipal methods employed for disinfecting rooms in which tuberculous patients have lived, as well as into other methods of disinfection and the influence of certain natural agents on the virulence of the *B tuberculosis hominis* One of their reports was presented to the Scientific Grants Committee of the British Medical Association shortly before the last annual meeting of the Association, but has only recently been published It embraces fifteen elaborate tables, with illustrations, diagrams and text, dealing with the virulence of fresh human tuberculous sputum, the virulence of recent cultivations of the human and avian tubercle bacilli, the effect of drying on the virulence of pure cultures of the same, the action of euchlorin on tuberculous sputum and on cultures of the bacillus, the effect of sulphurous acid, of the soluble products of combustion, of chlorinated lime solutions, of ventilation and of sunlight on the same[2]

Aside from the numerous experiments which have been made for the purpose of testing the virulence of the tuberculous products used in the experiments, and the influence of collateral factors, such as dryness, ventilation, heat, etc, the investigators conclude that

1 The disinfection of rooms which have been contaminated with tuberculous products can not be obtained by means of the fumigation methods such as are generally used at present Sulphurous acid, chlorin and euchlorin, as used under supervision by experienced municipal disinfectors, have proved practically useless This only confirms the results obtained by KOCH and his pupils in the case of a number of other organisms

2 The only other method of disinfection which seemed to promise more satisfactory results was the direct application of a solution of chlorinated lime to the walls to be disinfected This method has given so far satisfactory results, but is attended with discomfort on the part of those who have to carry out the disinfection It must be remembered that the experiments of SCHILL and FISCHER are unfavorable to the use of perchlorid of mercury

3 Light is, in the case of the tubercle bacillus, as it has been proved by several observers to be in the case of other organisms, the most important natural disinfecting agent

The bases of this last conclusion are to be found in Tables XIII—"Effect of Sunlight on the Virulence of Tuberculous Sputum," and XIV—"Effect of Sunlight on Pure Cultivations of the *Bacillus Tuberculosis Hominis*" In the former are given the results of specimens of four different sputa used in experiments on nine guinea pigs, from one-eighth to one c cm, being injected subcutaneously into the tissue of the leg and into the peritoneum, all the sputa were proved to be infectious in control experiments, the specimens injected were previously exposed to sunlight and air for varying periods—the maximum being during "three bright afternoons", one of the animals was killed and examined on the fourth, two on the seventh, two on the twenty-second, one on the thirty-seventh, one on the forty-sixth, one on the eightieth and one on the eighty-sixth day after injection In none was any trace of tuberculosis found Table XIV gives the results of similar experiments with a pure culture of the bacillus—four guinea pigs being inoculated each with one half c. mm., of a culture proved to be virulent by control experiments; the culture injected had been previously exposed to sunlight for a maximum period of eighteen and a half radiant hours; the first pig was killed and examined on the forty third day after inoculation, the remaining ones on the seventy eighth, one hundred and fortieth and one hundred and fiftieth days. In none was any trace of tuberculosis found.

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[1] JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, p 335

[2] For these tables, etc see British Medical Journal, Feb 16, 1895

Do not the results of these painstaking and elaborate investigations tend to show that the radical measures of chemic disinfection, of segregation, of branding and labeling the unfortunate tuberculose are wholly uncalled for or worse? Do they not again demonstrate the sufficiency of the great natural agents of disinfection—sunlight and fresh air? And may not all necessary prophylactic measures in the family of a consumptive patient be safely left to the attending physician, without the intervention of the health officer or municipal disinfector?

A PITFALL FOR THE PROFESSION.

One of the most largely attended meetings of the New York County Medical Society was held last week at the Academy of Medicine in New York city in response to the following call:

WHEREAS, A number of instances have occurred in this city where reputable members of this Society have been arrested for complicity in malpractice cases without even the shadow of a reason for such action on the part of the police; therefore, we, the undersigned, respectfully request you to call a special meeting of the Society for the purpose of ascertaining the rights and privileges of physicians who may be called to attend cases of abortion, etc.

The immediate occasion of this call was the recent arrest of two reputable physicians, members of the Society, who had been summoned to a patient in the house of a midwife, and to whom the patient represented that she was a widow and denied absolutely that any operation had been performed on her or any medicine given to her. The physicians ordered her taken to a hospital, having previously sent for a coroner, who could not be found before it was necessary to remove the woman. She died in the hospital after making a full confession, incriminating the midwife and completely exonerating the physicians; notwithstanding which they were arrested by the police and taken before the coroner, who refused to hear them, and was about to hold them in $5,000 bail each when, on the intervention of a coroner's physician who knew them, they were released on their own recognizances. The jury, made up of medical men, returned a verdict that the attending physicians had acted in every respect in accordance with their duty.

DR. E. H. GRANDIN, President of the Society, on calling the meeting to order, said:

"An indignity has been imposed upon the medical profession by the police, and their action in a recent case, which may form a precedent unless a protest is made. We find ourselves between the horns of a dilemma. When called to the bedside of a dying woman, if we do not respond we lay ourselves open to the imputation of inhumanity. If we do respond and find the woman in danger from what appears to be the result of a criminal operation, we must take one of two courses. Either report the matter to the police and subject ourselves to the possibility of a libel suit, or keep it secret and, in the event of the death of the patient, run the risk of arrest. We are here to protest against the idea that the presence of a medical man at the bedside of a woman suffering from miscarriage is *ipso facto* evidence that he has committed a crime in the matter. It is the midwives and notorious abortionists who, under the guise of specialists, commit these crimes, for which they are so often indicted but so seldom punished. This crime is on the increase. Are the officers of the law, by their laxity where they should be most active, responsible for this state of affairs? This city should be made too hot to hold abortionists."

In the discussion which followed, DRS. JACOBI, MARKS, REED, IRWIN, VAN RASDOM, TUTTLE, HART and others, including the coroner himself, a Dr. Hoeber, participated—the latter gentleman announcing and attempting to defend the startling proposition that a physician is bound to reveal the secrets of the sick room where he may suspect crime has been committed. After a somewhat exciting session, a resolution was adopted instructing the counsel of the Society to furnish an opinion on the subject matter of the call as therein recited, and a resolution, offered by DR. MICHAELMAS, denouncing the arrest of the physicians as unjustifiable, declaring that abortion is on the increase, and calling for legislation making it a criminal offense for any person but an M. D. to practice midwifery, was referred to a committee.

It is to be hoped that the Society will not let the matter rest in this stage. It is notorious that criminal abortion is rife in every large city, that the premises of too many midwives are simply slaughter-houses, and that it is the common practice of these hell hags to shunt their dying victims off on to the nearest physician whenever it can be done. No general practitioner who does obstetric work in any large city of the country is safe in taking an emergency case without pursuing such inquiry as to make him subject to the charge of being inhuman and cold-blooded. The practice of midwifery should be, as DR. MICHAELMAS suggests, confined by criminal statute to regularly graduated physicians, and the abortionist-midwife be made an outlaw.

THE forty-sixth annual session of the AMERICAN MEDICAL ASSOCIATION will be held in Baltimore, Md., on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A. M.

THE NOMENCLATURE AND CLASSIFICATION OF DISEASES

SURGEON-GENERAL STERNBERG has issued a revision of the nomenclature and classification of diseases in use in the Medical Department of the Army Up to this time the official classification was practically that of the College of Physicians of England, and included many divisions and subdivisions such as zymotic, miasmatic, enthetic, zoogenous, etc, that belong to a past era in the progress of medical knowledge The new classification is therefore a step in advance taken at the instance of clinical as well as etiologic considerations The nomenclature used is simple and as free as possible from technicalities Developmental diseases and the refractive errors of the eye find no place on the new list, as men with such disabilities should not be accepted for service The dietetic class, which included alcoholism and results, delirium tremens, drug habit and scorbutus has been broken up, and scurvy placed among the general diseases of nutrition with acute alcoholism, chronic alcoholism, delirium tremens and chronic narcotic poisoning among diseases of the nervous system The class of parasitic diseases is also omitted, *scabies* being placed among local infections of the skin, and trichinosis among infections Rheumatic fever, carcinoma and sarcoma appear among the general infections Their right to this position has not been established satisfactorily, but it is strongly indicated by the tendencies of recent etiologic studies In order not to dislocate certain local infections too abruptly from their old associations they are entered under "structural and functional diseases of organs," as well as under "infections," so that in consolidating the statistics they may be thrown in either direction as desired by the statistician Among many minor changes, hernia is placed with accidents and injuries where it properly belongs, instead of being included, as heretofore, among diseases of the digestive system We will print the circular containing the list in this issue of the JOURNAL

DECISION REGARDING THE QUARANTINING POWERS OF BOARDS OF HEALTH

The Health Commissioner of Brooklyn, DR Z T EMERY, has obtained through counsel an important reversal of a former decision that had the effect of abrogating the powers of health officers to practice quarantine for the purpose of stamping out smallpox and the like This reversed decision is a virtually unanimous opinion of the three judges sitting in general term of the Supreme Court of New York, and can not fail to be far-reaching in its influence in all States where the legal system resembles that of New York This probably includes not less than one-half of the United States The judges sitting in this term were JUDGES DYKMAN, PRATT and CULLEN The decision was signed by the former two, the last named did not sign, for he was not present at all the hearings

The reversal asserts that the Commissioner of Health has the right to order that persons may be quarantined for the protection of the health of the community, where a proclamation has been duly made that the public health is endangered by reason of impending pestilential disease, that it is the duty of the Board of Health to exercise a proper and vigilant control of persons and things which, from any cause, are liable to communicate contagion The question of compulsory vaccination was not at issue in this case, and the reversal does not affirm or deny the right to compel that procedure in a direct way The following are the closing paragraphs of the decision, freed from the technical legal references to authorities, enactments, etc

> "These relators fell under the control of the Board of Health, they came to the city from infected places, and they were liable to communicate contagion, they were, therefore, proper subjects for isolation and they were quarantined and detained in their premises That isolation and detention was clearly within the scope and powers and duties of the Board, and that is all it did The Board did not require the relators to be vaccinated, and that seems to be the error into which the relators have fallen They seem to assume that the Board of Health intended to compel them to be vaccinated, but the acts of the Board admit of no such construction There was neither coercion nor compulsion They were isolated and deprived of their freedom because they had been exposed to smallpox and were liable to be seized therewith, and by communication with others, to spread the disease That was a legitimate exercise of the power and authority vested in the Board by statute, and it was unnecessary to prescribe any conditions upon which the relators could terminate their isolation, that was done entirely for their benefit and for no other purpose If they availed themselves of the privileges tendered to them, their acceptance would terminate their quarantine, and their refusal would leave them in isolation until July 1, 1894, the time mentioned in the mayor's proclamation They refused the condition and instituted this proceeding The prevention of smallpox is of such paramount importance as to justify all reasonable means for its accomplishment In the age of the world we live in, security is gained from the awful pestilence of smallpox by reason of the practice of vaccination as a preventive Its efficacy has been recognized by physicians of all schools for nearly a century DR JENNER, its discoverer, was immortalized by its introduction Vaccination was accepted and practiced by the entire civilized world within six years from the time of its first discovery, and it has been in universal use from that time until the present It is stated in the return, and the statement is uncontradicted, that it is a well established scientific fact that vaccination is a preventive of smallpox in the person vaccinated, and it has been for many years demonstrated that thorough vaccination of persons in crowded centers is indispensable to the prevention of epidemic smallpox
>
> "This statement, as we have narrated, is in accord with the advanced thought of the age in which we live, and it receives our concurrence We have decided at the present term of this court that vaccination may be required as a condition precedent to the admission of children to the common schools of the City of Brooklyn
>
> "The propriety and wisdom of the course pursued by the Board is beyond criticism Its acts have all been within the lines of statutory authority, and they have been discreet and in evident good faith in the presence of an impending pestilential danger"

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THE AMERICAN LANCET

After twenty four years' service in medical journalism, the veteran editor of the *American Lancet*, Dr Leartus Connor has retired from responsible editorship, and the publisher announces that the publication will cease from and after the issue of the March number

Under the guidance of Dr Connor, the *Lancet* has been clean, bright, scholarly and fearless, and the tribute paid him by Mr George S Davis, the publisher, is only a just tribute to his worth and merit In his valedictory the editor says

"The *American Lancet* has done what it could to promote the advancement of the profession along the highest lines coincidently with the marvelous changes in and out of the profession of medicine during the past twenty four years It has encouraged young men to acquire the art of writing, and old men to continue in the practice of this art, to the end that more facts and experiences of value might be placed upon the written record of the profession It has encouraged medical society work and sought to multiply medical society workers It has never neglected to encourage every effort for sound medical education along such lines as experience has shown to be the wisest To repress the false and develop the true in all directions of the science and art of medicine and among medical workers, has been its constant aim"

CORRESPONDENCE

WILMORE, CAMBRIA CO PA, March 19 1895

To the Editor —Can any of the readers of the JOURNAL inform me of the name of the town in the State of Maine where Professor Usher Parsons was born (he being the first Vice-President of the AMERICAN MEDICAL ASSOCIATION), and if he was a descendant from Joseph (4th) Parsons and Elizabeth (Usher) Parsons, of Braintree, Mass?

There have been many of the Parsons family who have received the given name of Usher Perhaps the youngest may be Dr Usher Irving Parsons, of Council Bluffs, Iowa, who is now Professor of Physiology in the medical school of that city

And can any one inform me about Dr Hall Jackson, of Portsmouth, N H, who must have been in practice during the latter part of the last century?

IRVING C BLAISDELL, M D

ANSWER —Dr Usher Parsons was born in Alfred, York County, Maine, in 1788 For a notice of Dr Parsons see Trans Am Med Asso Vol xxi, p 430 There is no notice of him in Thatcher, Williams, Gross, Atkinson or Stone

PUBLIC HEALTH

Praiseworthy Action of a Railway Company —A diphtheria corpse was recently shipped from Hammond, Ind, to Lima, Ohio, and thence to Spencerville, Ohio, where the body was interred The matter was brought to the attention of the Chicago & Lake Erie Railway Company, over which line the shipment was made, and on a report from the health authorities the superintendent suspended the conductor, train and station baggage-masters who assisted in handling the body It was found that the shipment had been made as indicated and the rules of the State Board of Health and of the company violated, because the father of the child was connected in some way with the road

Demography of San Luis Potosi —The JOURNAL is in receipt of the current series of weekly bulletins, *Demografico y Meteorologico*, of the city of San Luis Potosi Mexico, compiled under the direction of the Inspector General, Dr J J Monjaras The population of the city, by the census of December, 1891, is 68 401 composed of 31 919 males, 36 48[illegible] females, under 15 years of age 21 8[illegible], between 15 and 60 years [illegible], over 60 years 2,102 The deaths during the first seven weeks of 1895 were 373—an annual mortality rate of 40 5 per 1000 The *Boletin* makes no comment upon this high death rate which is in excess of the natality rate for the same period during which only [illegible] births were reported—an annual rate of [illegible] per 1000

Sterilization of Milk —Rodet thus reviews in the *Bulletin Medical de Paris* the three principal methods of sterilizing milk by heat 1, sterilization properly so called by a temperature of 110 to 120 degrees C, this is the only way to kill all the germs and keep the milk for a long time, 2 pasteurization or heating to the minimum of 70 to 80 degrees, which while not affecting the most resistant microbic forms, nevertheless inhibits their pathogenic activity and retards the fermentation of milk 3 the method between these two of employing about 100 degrees of heat is the one commonly used and its power of sterilization depends on the length of time it is carried on Ebullition of the milk, even if short, acts powerfully against the pathogenic microbes and also against the acid ferments Among the drawbacks to sterilization is the brown color which some milk assumes and which offends the eye of the consumer as well as changes its taste These changes are of little importance compared with the pellicle which forms on the surface of milk boiled while exposed to the air This imprisons a certain quantity of cream and hence affects the nutritive value of the milk Its formation may be nearly entirely avoided by boiling in bottles in steam or boiling water, as in Soxhlet's method According to MM Budin and Rodet the milk prepared according to the latter method possesses a value for nurslings at least equal to raw milk For milk consumed in cities, the boiled or sterilized method possesses a greater superiority Contrary to the opinion of certain authors, who attribute a less degree of nutritive value to boiled or sterilized milk on account of its greater digestibility, Rodet thinks that the difference, if any exists, is very slight

Prevailing Morbidity —The equable temperature of the past week, although below the normal in some regions has favorably affected the seasonal diseases Diphtheria in the larger cities has undergone a notable diminution in prevalence, but, as is common, its ravages in the rural districts and smaller towns are reported to be quite severe The enthusiastic advocates of the antitoxin treatment still continue to attribute the decline to the new remedy, Dr Herman Biggs, of the New York City Board of Health, is quoted as ascribing a reduction of 10 per cent in the diphtheria mortality in that city to this cause ——The smallpox situation is substantially as reported in last week's issue of the JOURNAL Sporadic cases continue to occur in many of the Northern States—St Paul, Minn, New Haven, Conn —among the Yale students—at some points in Ohio and elsewhere, but its increase is mainly in the region south of the Ohio River The reports are conflicting and, like the "fever and ague" of early days, there is none in the town making the report but in the neighboring town or some other locality, the disease is "raging" Quarantines continue to impede travel throughout the Valley States Dr Wingate, Secretary of the Wisconsin State Board of Health, reports, March 18, total number of cases on hand in Milwaukee, 18, in hospital 7, in homes 11, he also reports 5 cases at Sparta, in Monroe County In Chicago, the Health Commissioner, Dr Reynolds, is congratulating the community on its escape from the usual second year of the epidemic—citing the following comparative figures In the last epidemic, 1881–83, there were 1,180 deaths during its first year out of a population of 540 000, in 1894, the first year of this epidemic, there were 1,038 deaths among three times the population, in January, 1882, there were 345 deaths, January, 1895, 55 deaths, February, 1882, 281 deaths, February, 1895, 30 deaths, first twenty days of March, 1882, 171 deaths, first twenty days of March, 1895, 19 deaths He claims that the outbreak is substantially at an end ——Influenza fails to make any appreciable impress on the general death rate in this country, although its influence on acute lung diseases is quite marked ——What is probably an outbreak of epidemic cerebro spinal meningitis is reported to be prevailing as a "fearful pestilence" in Floyd County, Kentucky, some fifty deaths being already reported among its sparse population Dr B M Smack, of Oakland, Ky, has been sent into the region to investigate, and his preliminary report to Dr McCormack, Secretary of the State Board of Health, confirms the diagnosis

In Europe, influenza continues to attract attention, the disease does not subside so rapidly as was anticipated, and the official figures of the last week show an increase in London, where the number of deaths from the malady for the first half of the month was 769, this exceeds the total for the entire year of 1894 The death rate of the city for this period reached 41 in the thousand—one of the highest points ever known In Scotland the death rate in February was 45 per cent higher than any previous February rate since records were kept A special cable dispatch to the New York *Sun* says that "the influenza is peculiarly malignant in certain places Three sisters died of the disease at Rochester this week, and it was necessary to postpone the funeral because all the mourners were prostrated by the same malady" From Berlin, reports indicate no decrease in the spread of the epidemic, there have been since January 1, 730 deaths from this cause in Berlin alone ——An outbreak of what is, apparently, the human form of the foot-and-mouth disease of cattle has appeared among the inhabitants of Schonberg, a suburb of Berlin, and physicians are said to be apprehensive of its spread throughout Europe Dr Thorne Thorne was the first to establish the transmissibility of this zoögenous disease to the human family through the milk of diseased cows and its transmissibility by direct contact is well-known to veterinary surgeons It is hardly possible, however, that the cattle of Europe are so generally affected with the disease as to cause any wide spread of it in human beings Professor Virchow and a committee of the Berlin Medical Society are investigating the local outbreak

Health Reports —The Supervising Surgeon-General of the Marine-Hospital Service has received the following health reports

SMALLPOX—UNITED STATES

Arkansas Little Rock, February 1 to March 8, 82 cases, 14 deaths, Hollywood, Clark County, March 8, 1 case, 1 death

Louisiana New Orleans, March 2 to 9, 2 cases

Michigan March 1 to 9, smallpox reported at Detroit, Grand Rapids, Highland Park and Three Rivers, one case of suspected smallpox at Ypsilanti

Ohio Cincinnati, March 8, 12 cases March 8 to 15, 3 cases, 1 death, Lima, March 1 to 8, 1 case, 1 death

Illinois Cairo, March 11, 1 case

Tennessee Memphis, March 13, 1 case, 1 suspected case

Texas Fort Worth, March 2 to 9, 4 cases, Marshall, March 13, 1 case

Wisconsin Dover, March 2 to 9, 4 cases, Milwaukee, March 2 to 9, 7 cases, 2 deaths

SMALLPOX—FOREIGN

(Reported by U S Consuls)

Arabia Aden, January 26 to February 9, 2 cases

Belgium Brussels, February 16 to 23, 1 death

Holland Rotterdam, February 23 to March 2, 13 cases, 3 deaths

Ireland Dublin, February 16 to March 2, 166 cases, 11 deaths

Gibraltar February 17 to 24, 1 case

India Calcutta January 26 to February 2, 43 deaths

Italy Naples, February 16 to 23, 2 cases, 2 deaths

England Leeds, February 23 to March 2, 1 case, Liverpool, February 23 to March 2, 3 cases 1 death, London, February 16 to 23, 75 cases, 1 death

Russia Moscow, February 9 to 16, 2 cases 2 deaths

Scotland Edinburgh, February 16 to 23, 1 case, 2 deaths Glasgow, February 16 to 23 40 cases

CHOLERA

Ceylon Colombo, January 26 to February 2, 8 cases, 8 deaths

India Calcutta, January 26 to February 2, 28 deaths, Madras, February 2 to 8, 4 deaths

Austria-Hungary Galicia, (4 political districts) February 4 to 10, 11 cases, 7 deaths

Russia Petrikov Gov't, January 13 to 19, 2 cases, no deaths, Radow Gov't, January 6 to 19, 5 cases, 4 deaths, Suwalki Gov't, January 13 to 19, 8 cases, 7 deaths, Kurland Gov't, December 30 to January 12, 27 cases, 14 deaths, Podolia Gov't, January 13 to 19, 69 cases 37 deaths, Taurien Gov't, January 6 to 12, 26 cases, 19 deaths, Minsk Gov't, January 6 to 12, 5 cases, 3 deaths, Kursk Gov't, January 6 to 12, 3 cases, 3 deaths, Saratov Gov't, January 6 to 12, 3 cases, 1 death

Turkey Constantinople, January 29 to February 4, 46 cases, 22 deaths

YELLOW FEVER

Ecuador Guayaquil, February 15 to 22, 2 deaths The Consul General at Guayaquil writes that "of the seven or eight men of ships' crews dying within the last ten days, none are reported as having died of yellow fever, while the common apprehension is that they all died of that pest The ports of Peru are quarantined against Guayaquil"

Cuba Havana, month of February, 4 deaths, March 1 to 7, 5 cases

Under date of Jan 18, 1895, the United States Consul at Amoy, China, reports the following relative to the existence of the plague in Amoy 'Several times last summer during the prevalence of the plague in Hong Kong and Canton, rumors came to me that isolated cases were occurring in Amoy In every instance, however, prompt inquiry of the medical officers of the port, Dr MacDougall and his assistant, Dr Wingate, elicited the assurance that no cases of the plague were encountered by them, either in their general practice or in their Chinese hospital, and besides they had kept out a standing offer of a considerable reward for any such diagnosed by a foreign surgeon But on January 5, I received official notification of the existence of the plague in Amoy, a limited number of cases having occurred Some of these cases speedily terminated fatally, but the arrival of a Cantonese doctor was followed by good results in saving a large proportion of the patients, and in fact it is now said there are now no cases left in the town I understand that the disease has made its appearence in the interior towns and villages to the north and west of this port, but of this I am wholly without reliable information"

The following letter has been received from Acting Assistant Surgeon L P Gibson, M-H S, at Little Rock, relative to smallpox at Hot Springs and vicinity

"I have the honor to report as follows concerning smallpox in this State At Hot Springs, the Secretary of the State Board of Health reports that there have been 115 cases and 26 deaths up to date At Malvern, 4 cases, no deaths, at Donaldson, 4 cases, no deaths, At Hollywood, 1 case, no deaths The disease has appeared at Brinkly, Ark, the crossing of the L R & Memphis with the St Louis & Northwestern R'y There are 4 cases with no deaths thus far The large increase of cases at Hot Springs for the week does not represent the actual number of new cases for that period A number of them are cases that existed before, but were not discovered All the cases in this State are traceable to the same source of contagion, Hot Springs

"Little Rock, Ark, March 16, 1895"

ADDITIONAL REPORT OF SMALLPOX

England London, February 23 to March 2, 68 cases, 1 death

Scotland Edinburgh, February 23 to March 2, 9 cases, 2 deaths

Russia St Petersburg, February 9 to 16, 9 cases, 3 deaths

ADDITIONAL REPORT OF SMALLPOX IN UNITED STATES

Ohio Columbus, March 9 to 16, 1 case

BOOK NOTICES

Suggestions to Hospital and Asylum Visitors By John S Billings, M D, and Henry M Hurd, M D, with an introduction by S Weir Mitchell, M D Philadelphia J B Lippincott Co 1895 Price 50c

An excellent book of conundrums which hospital visitors should propound to themselves on visiting hospitals, the answers to which are to be found in the conditions as they exist Notwithstanding that the book has been compressed into 48 pages, it seems to cover all the points necessary for hospital inspection The book should be read by hospital stewards, hospital matrons, nurses, and internes, as well as by hospital visitor

A Manual of Bandaging, adapted for self instruction By C Henri Leonard A M M D Professor of the Medical and Surgical Diseases of Women, and Clinical Gynecology in the Detroit College of Medicine Sixth edition with 139 engravings Cloth octavo, 189 pages Detroit Mich The Illustrated Medical Journal Co, Publishers Price, $1 50

This is the sixth edition of this book, and is well worth examination and a place in one s library The explanatory cuts are numerous, and the text lucid

The Anatomy of the Nasal Cavity and its Accessory Sinuses An Atlas for Practitioners and Students By Dr A Onodi Translated from the Second Edition by St Clair Thomson, M D London, F R C S London H K Lewis 1895 Small quarto

This book consists of a set of plates which show the topographical relations of the nasal cavity and its accessory sinuses They represent sections made in different directions and photographic reproductions The anatomical preparations were made in the laboratories of Mihalkovics and von Thanhoffer in Buda Pesth The plates from 1 to 14 are extremely valuable The rhinologists can scarcely afford to be without a copy of these exquisite plates They are very instructive for general practitioners and students, as well as for specialists We can not speak for plates Nos 15 and 16 as by some inadvertence they have been omitted from the copy sent to the reviewer

A New Surgical Work A System of Surgery edited by Frederic S Dennis M D and John S Billings, M D

This work is announced by Lea Brothers & Co as shortly to appear, in three imperial octavo volumes The list of contributors embraces the names of W T Bull Charles McBurney, and Robert F Weir of New York Councilman, Porter, Richardson, and Warren of Harvard, Carmalt, of Yale, Keen, White Roberts, and Wharton, of Philadelphia, Welch, of Baltimore, Park, of Buffalo, Conner, of Cincinnati, Mudd, of St Louis, and Senn, of Chicago

Edwards' Hygiene with Anatomy and Physiology, Being an Amplification of Edwards' Catechism By Joseph F Edwards, A M, M D Intended for Schools and General Reading Published by Edward B Slavin New York No date

It is a great pity that in a book designed for public schools the illustrations should not be more accurate than is the case with most of those in this book The perspective of the picture on page 8, showing the disposal of organic matter is bad and the triangular liver, three cornered heart and variously shaped intestines in another place would cause the *ghosts of* Vesalius and Gray to rise from their environment Extremely ludicrous is the picture of a pugilistic encounter on page 15 Some of the schemes and diagrams are much better, but there certainly can be no excuse for the one on page 121 The text of the book is interesting, if somewhat allegorical and after the manner of fables wherein the good children are always rewarded and the bad are horribly punished As a work of hygiene we have no hesitancy in recommending the general principles it teaches, as a work of art it is a lamentable failure, and we sincerely trust if the book reaches the dignity of a second edition the author will induce the publisher to have it more appropriately illustrated

Text Book of Chemistry Intended for the Use of Pharmaceutical and Medical Students By Samuel P Sadtler, Ph D, F C S and Henry Trimble, Ph M Philadelphia J B Lippincott Company Pages, 950 octavo 1895 Price $5

This book is of a much higher order of chemistry than is usually supplied to students and seems to be well calculated for the uses and purposes of practical chemists As a text book for the use of medical students it would perhaps be more convenient if the questions had been added as in some of the other works on chemistry in order that the student might be able to grasp the full meaning and purport of the technical propositions contained in the text Part i gives a brief outline of elementary physics Parts ii and iii describe the elements as divided into non metals and metals Part iv deals with organic chemistry Part v gives a brief outline of qualitative and quantitative analysis, and here original methods are described A number of assays of the U S Pharmacopœia are also added This book is one of the highest practical character and while there is a good deal in it that the student of medicine will not particularly need in after life yet it is well to have once known the methods of mineralogical analysis even if it shall only serve as convenient pegs of memory on which to hang correlated scientific theories For pharmacy students and chemists it leaves nothing to be desired

Elements of Pathologic Histology with Especial Reference to Practical Methods By Dr Anton Weichselbaum Professor of Pathologic Anatomy and Director of the Institute of Pathologic Anatomy in the University of Vienna Translated by W R Dawson M D Demonstrator of Pathology in the Royal College of Surgeons Ireland with 8 plates and a large number of illustrations in the text some of which are colored London Longmans Green & Company 1895

This book has been divided into chapters English fashion by the translators, and we find thirteen of them as follows Chapter i follows an introduction of nine lines, and is devoted to histologic methods of investigation Chapter ii is divided into bacteriologic methods of investigation Chapter i is divided into three parts and Part ii into six chapters covering the general pathologic histology as follows 1 Retrograde Changes in Tissues, 2 Progressive Tissue Changes, Inflammation Infective Granulation Tissue Tumors 3 and 4 Tumors or new Formations, 5, Parasites which includes vegetable parasites, under which heading the Bacteria are included Chapter vi, Animal Parasites which includes the protozoa sporozoa, infusoria cystoidea trematoides, pneumatoides and arthropoda Part iii Special Pathologic Histology divided into thirteen chapters i, The Blood, ii, Circulatory Apparatus, iii, The Spleen, Lymphatic and Thyroid Glands and Suprarenal Capsules, iv, Digestive Apparatus, v, Liver, Bile Ducts and Pancreas, vi, Respiratory Apparatus, vii, Urinary Apparatus, viii, Generative Apparatus, ix, Nervous System, x, Organs of Locomotion, xi, Skin, xii, Eye, xiii Ear

The book is beautifully printed, the paper is excellent, the illustrations all that could be desired The book contains the latest investigations on the subject of which it treats and will repay the most careful study The photographs of various bacteria, which are shown at the end of the volume, are extremely handsome

Manual of Chemistry A Guide to Lectures and Laboratory work for Beginners in Chemistry A Text book specially adapted for Students of Pharmacy and Medicine By W Simon Ph D, M D, Professor of Chemistry and Toxicology College of Physicians and Surgeons, Baltimore, Professor of Chemistry in the Maryland College of Pharmacy New (fifth) edition In one octavo volume of 502 pages with 44 engravings and 8 colored plates illustrating 64 of the most important chemic tests Philadelphia Lea Brothers & Co 1895 Cloth, $3 25

The fifth edition of this well-known text book has been prepared with great care, and the changes and additions made were necessitated by the desire of the author to bring the work into close relation with the new Pharmacopœia The author has not altogether followed the orthography recommended by the Chemic Section of the American Association for the Advancement of Science because, as he states

"Neither the leading chemical journals nor the U S, Pharmacopœia have used the spelling" The first part of the work considers the fundamental properties of matter The second treats of the theories of atomic constitution The third and fourth, of the consideration of non-metallic and metallic elements and their compounds The fifth is devoted to analytical chemistry and is also intended to serve the student as a guide to laboratory work The sixth treats of organic chemistry The seventh and last parts are devoted to physiologic chemistry We note with pleasure that the decimal system has been strictly adhered to in all weights and measures, and that the degrees of temperature are expressed in the same system There are eight colored plates showing the compounds of various metals, benzine derivatives, reactions of the alkaloids, the urine and test for its constituents The colorings have been very accurately represented and add very greatly to the value of the work We commend this book to our readers

Suggestive Therapeutics in Psychopathia Sexualis, with Especial Reference to Contrary Sexual Instinct By Dr A von Schrenck-Notzing (Munich, Germany) Authorized translation from the German by Charles Gilbert Chaddock, M D, Professor of Diseases of the Nervous System, Marion-Sims College of Medicine, St Louis, member of the American Medico-Psychological Association, Attending Neurologist to the Rebekah Hospital, St Louis, Mo, etc, etc One volume, royal octavo, 325 pages Extra cloth, $2 50 net, sheep $3 50 net Sold only by subscription to the medical profession exclusively Philadelphia The F A Davis Co

The translator says the favorable reception given Von Kraft-Ebing's "Psychopathia Sexualis" induced him to undertake an English version of the work by Dr A Von Schrenck Notzing The views for which the latter contends are able and are in striking contrast with those held by Kraft-Ebing, and for that reason deserve to be placed in English by the side of Psychopathia Sexualis The author is a firm believer in the efficacy of suggestive therapeutics and hypnotic treatment in the cases of sexual perverts, paresthesia and impotence The author on page 302 gives a summary of results in thirty-two cases, which may be arranged as follows

Failures	5	=	15 625 per cent
Slightly improved	4	=	12 5 " "
Essentially improved	11	=	34 375 " "
Cured { with later report	15 } 12	=	37 5 " "
Cured { without later report	2 }		
Total			32 100 " "

Of twenty-three patients, five were not amenable to hypnosis, eight passed into somnambulism, thirteen into hypotaxis, and three became only somnolent In three cases the degree of susceptibility is not given by the authors More than one-third of the cases were completely cured, and in ten of these it was possible to determine by later observation that the cure was persistent In several cases the period of observation extended over a year, indeed Kraft-Ebing observed one case for two years, and I had the opportunity of watching a discharged patient two years and seven months Four other patients were kept under observation more than a year, and a somewhat larger number longer than six months

There is added to this book an appendix which was prepared for the English edition October, 1894, and which has been translated from this manuscript by Dr Chaddock In this appendix the facts are confirmed and the theories of the author seem to be well sustained

The publisher deserves commendation for confining the sale of this book exclusively to the members of the medical profession

Transactions of the Royal Academy of Medicine in Ireland. Edited by Wm Thompson, M.A, F R C S, General Secretary Dublin Fannin & Company 1894

These transactions contain the usual arrangement of the general rules of the Academy, list of officers, members, student associates, annual reports, and the like It is then divided into six sections Section of Medicine, which contains eleven papers Section of Surgery, containing ten papers Section of Obstetrics, eight papers Section of Pathology, seven papers Section of State Medicine, two papers, and Section of Anatomy and Physiology, seven papers These last papers are followed by reports of collective investigations in the anatomic department of Trinity Medical College and in the anatomic department of Catholic University Medical School

These collective investigations are anatomic, and the first is on the point of bifurcation of the abdominal aorta The following results were given at Trinity College 74 5 per cent of the total number bifurcated at the fourth lumbar vertebra, the next place of frequency was on the intervertebral disc between the fourth and fifth lumbar vertebræ, the percentage being 19 2, while in 4 2 per cent the aorta bifurcated on the fifth lumbar vertebra, only 2 1 per cent on the intervertebral disc, between the third and fourth lumbar vertebræ

In males the taller the subject, the greater the tendency of bifurcation at the lower level, but in females the tendency, if any, is in the opposite direction

At the Catholic University Medical School, out of twenty-two subjects examined, the aorta divided in fourteen on the body of the fourth lumbar vertebra, slightly to the left of the median line Of the remaining eight, seven were opposite the intervertebral disc between the fourth and fifth lumbar vertebræ, and one between the third and fourth

Another collective investigation was taken as to the level of termination of the spinal cord, and considered regardless of sex, the Trinity Medical School found that in 65 per cent of all subjects, the cord terminated at some point on the first lumbar vertebra In the separate examination of sexes, it was found that in males by far the greater number of cords ended on the first lumbar vertebra, while in females the cord has a distinct tendency to encroach on the second lumbar vertebra In 52 per cent of the female subjects the cord ended on the second lumbar vertebra, and in 48 per cent on the first

Mr Roughlan, at the Catholic University Medical School, reports having examined nine subjects, in four of which the cord ended at the disc between the first and second lumbar vertebræ, in two at the junction of the middle and lower third of the first lumbar vertebra, in two at the junction of the middle and lower third of the second lumbar vertebra, and in one case at the lower end of the second lumbar vertebra

Another investigation was made of the presence of the palmaris longus, plantaris and pyramidalis muscles, and the Trinity School found, in examining seventy-eight arms, the palmaris longus in 88 45 per cent In 11 34 per cent it was not represented Considering right arms, it was present in 92 per cent, absent in 7 9, whereas in left arms it was found in 85 per cent and wanting in 15 per cent from which, says the reporter, "it would seem to be more frequently absent on the left side" The plantaris was investigated in seventy-three legs, and found to be present in 93 15 per cent No preference was shown for either side In 7 per cent there was scarcely any muscular belly In one leg the tendo Achillis was three inches above the insertion The pyramidalis abdominis was examined in forty-three subjects and found to be equally developed on the right and left sides It was present in 60 47 per cent, and absent in 39 53 per cent On the other hand, in females it was only present in 58 4 per cent, and absent in 41 5 per cent The whole tendon shows the muscle is becoming extinct, this being more marked in the female sex

It is curious to note the close correspondence of the examinations made in the Catholic University Medical School which may be fairly said to be the 'control" experiment In thirty-four arms examined, the palmaris was present in 88 82 per cent As will be seen above, this varies 42 per nt from the Trinity Medical School observations In irty four legs examined, the plantaris was present in 97 er cent The pyramidalis abdominis was present on both des in 85 7 per cent, present on one side in 7 2 per cent, id absent on both sides in 7 2 per cent of the cases Pres nt on both sides in nine males In five females it was ab nt once, and absent on one side once

There are very many interesting papers in this volume id the book will well repay careful study The paper of r Flynn, D P H on "Recent Developments in the Study ' Medicine" is worthy of careful perusal It has especial eference to State inspection of industries and unhealthy eas, and in connection with notification of registration he uotes our Dr Hewitt, of Minnesota, with approval

he Aseptic Treatment of Wounds By Dr C Schimmelbusch, with a preface by Professor Bergmann translated from the second German edition by Arthur Thrilbom Raker M B Crown 8vo, pages [illegible] London H K Lewis 18[illegible] Price $1 25

Dr Schimmelbusch is the assistant of Dr Von Bergmann t Berlin, and during the Tenth International Medical Con ress many of our readers will remember the appliances for he sterilization of dressings which were there exhibited by)r Schimmelbusch under the direction of Professor Berg iann There are sixteen chapters in the book divided as ollows I, The Importance of the Aseptic Treatment of Vounds, II, Infection by the Air and by Contact, III The Iaterial Causes of Wound Infection, IV, Disinfection, , Disinfection of the Surface of the Body, VI, Sterilization f Metal Instruments, VII, Aseptic Dressings, VIII Aseptic Sutures and Ligatures, IX, Aseptic Drainage of Wounds, , Aseptic Sponges, XI, Aseptic Use of Hypodermic and Aspirating Needles, XII, Aseptic Principles Applied to the Passage of Catheters and Bougies, XIII, Sterilization of Fluids for Washing and Irrigation XIV Operating in Sick Rooms, XV, Aseptic Operations and Wound Treatment, XVI Improvisation of Aseptic Dressings for Emergencies and Treatment of Injuries A rather extensive bibliography and a copious index conclude the volume

With reference to the sterilization of catgut ligatures, the author says (page 119) Von Bergmann has catgut treated with a 1 per cent solution of perchlorid of mercury in 80 per cent alcohol The treatment lasts at least forty eight hours and preferably longer Catgut is placed in a mixture of sublimate and alcohol, which at first becomes cloudy and must be changed until it remains quite clear, it is afterward kept in ordinary alcohol Experiments have lately been made with a view to making use of the high disinfectant powers of heat in the disinfection of catgut For this purpose, steam and boiling water are quite out of the question, for in a few minutes under either, catgut swells up into a formless tangle and is converted into glue The addition of strongly corrosive substances to the water, such as sublimate, chromic, or carbolic acid makes no difference as the author's experiments show On the other hand, hot air can be used for sterilizing catgut The catgut is heated for three hours up to 140 C in a well regulated, hot air sterilizer, in spite of the great heat the gut keeps its elasticity and firmness" The author thinks, however, that to obtain good results from hot air alone, it is necessary that a temperature of 110 C should be reached very gradually, and it takes some hours More over, the water must be extracted from the gut by previous immersion in alcohol If the gut be placed in xylol, it can be brought to 140 much easier The author gives numerous experiments and concludes by saying that, "in the Royal Clinic at Berlin, the old method of treating catgut with sublimate has been retained"

The details are as follows 1, a glass receptacle is sterilized for three quarters of a hour in steam, 2, the threads of catgut are wound upon glass reels or plates, as the case may be, 3, if the gut contains fat, the fat is removed by allowing it to lie in ether for twenty-four hours, 4, after the ether has been poured off the gut is allowed to lie in an alcoholic solution of sublimate of the following composition

Sublimate	10
Absolute alcohol	[illegible]
Distilled water	200

o, the solutions are renewed every twenty four hours and [illegible] This part of the process [illegible] again every forty eight hours [illegible] at least not less than forty eight hours [illegible] the gut is removed from the sublimate solution and placed in [illegible] alcohol which should be absolute if but stiff gut is required [illegible] diluted with not more than 20 per cent of glycerin for a softer form of gut Sublimate may be added as in the four [illegible] of the process if desired, the vessels must be kept well closed This method is easy to carry out [illegible]

This book is destined to meet with a warm [illegible] the United States and we are sure that [illegible] a need for a handbook of this character at this time

Periodicals

Medicine —A new medical journal will be started in Chicago within a few days It will succeed the [illegible] which is to be suspended The new journal is to be a high class monthly entitled *Medicine* under the editorial management of Dr Harold N Moyer and a competent staff of assistants Mr George S Davis of Detroit is the publisher The new enterprise was launched at an excellent dinner given by Dr Moyer and Mr [illegible] to Mr Davis There were present [illegible] of the medical press of Chicago [illegible] the editorial staff of *Medicine* and the editor of the [illegible] All present wished the new venture success

Annales d'Oculistique —This interesting periodical founded by Florent Cunier, fifty eight years ago, [illegible] by Worlomont, and at present edited in Paris by Dr E Valude and Dr D E Sulzer (French edition) [illegible] has an American edition edited by Dr George [illegible] an exact reproduction of the French edition published in Paris

The Peterson Magazine New York Penfield Publishing Co —This magazine for March is one of the most profusely illustrated periodicals that finds its way to our sanctum The physician's reception room table can have no more entertaining magazine than the March *Peterson*

NECROLOGY

Matthew Dickinson Field, M D, of New York city, died March 8, aged 42 years He was a member of the famous family of Fields, hailing from western Massachusetts he being nephew to both Cyrus W, and David Dudley, of that name, his own father was a civil engineer He was educated in arts at Williams College, in medicine at Bellevue Hospital Medical College and then served as an interne Three years after graduating, in 1882, he was appointed an expert in lunacy at the insane pavilion of that hospital and in that capacity he had thousands of warped minds and suspects pass under his examination He was early attached to the surgical staff of the Manhattan Elevated system, and later became the chief surgeon of the railway He was a frequent expert witness in the courts, in cases where the for a time fashionable plea of insanity was in vogue for the liberation of criminals, as well as in the damage cases against corporations He was married to Lucy Atwater about ten years ago, and she with two children survive him He was a member of the Medico-Legal Society, of the Academy of Medicine, of the Society of Medical Jurisprudence of the Alumni Society of the Bellevue Hospital Medical College, of the Neurological Society and of the County Medical Association He was also a lecturer at the Bellevue Hospital Medical College His final ill health and demise were referable to renal disease, with cardiac complications, that had incapacitated him for professional work since last October Interment took place at Stockbridge, Mass

G W Sampson Sr, M D, pioneer of the Sandusky Valley, died at Tiflin, Ohio, at the age of 93 years He practiced for sixty years, and was president of the first medical convention in Ohio

A A Collier, M D, of Trenton, Mo, March 14, aged 65 years ——James T Hester, M D, of Athens, Ga, March 12, aged 53 ——R O DuBois, M D, of New York, March 9, aged 36 ——John H Ellis, M D, of Chillicothe, Mo, March 10 —— Mary Jane Lane, M D, of Webberville, Mich, March 10 —— Thomas Gann, M D, a prominent physician of Jamestown, Ky, March 15

SOCIETY NEWS

Chicago Ophthalmological and Otological Society —The regular meeting was held at the Saratoga Hotel, Feb 12, 1895, Dr Gradle in the chair There were twenty-eight members in attendance

The minutes of the last meeting were read and approved

Dr Williams reported nine cases of cataract operated on from 1879 to 1888, in which a stitch was taken through the conjunctiva in order to close the corneal wound These cases demonstrated that the eye is very tolerant of such sutures In every case the results were good

Dr Bettman said that Fuchs' had tried them but had given them up Their use is now being advocated in France in simple extraction, in order to prevent prolapse of iris and astigmatism, the stitches being put through the corneal tissue

Dr Coleman had tried them and would always advocate them to prevent prolapse of vitreous

Dr Meyer read an essay on "The Evidence for the Localization of the Visual Centers"

Society adjourned by limitation C P Pinckard Secretary

The American Climatological Association will hold its next meeting at Hot Springs, Va, June 13, 14 and 15, 1895 This time was chosen to accommodate members of the Laryngological Association, which meets in Rochester the beginning of the following week Members desiring to read papers on this occasion will please send the titles as soon as possible to the President, Dr S E Solly, Colorado Springs, or to the Secretary, J B Walker

1617 Green Street, Philadelphia

The Ohio State Medical Society will hold its fiftieth annual convention at Columbus, Ohio, May 15–17 It is intended to organize a special committee on medical legislation based upon county representation The program is one of high scientific value, and a large attendance is expected The officers are as follow President, D N Kinsman, Secretary, Thos Hubbard, Toledo, Treasurer, J A Duncan

MISCELLANY

A Theme for Mr Ernest Hart —There were seventy-eight suicides in the city of Chicago during the first seventy eight days of the present year The Journal is prepared for the inevitable ' wishy-washy everlasting flood " of moralizing and predictions of rapid depopulation of what Mr Ernest Hart is pleased to style "Porkopolis"

Pean's Work in Abdominal Surgery —During the years 1889 and 1890, 2,200 patients were treated by Professor Pean in his service at the Hospital St Louis, and more than a thousand were operated on The number of deaths directly attributable to the operations was seven From 1864 to January 1, 1892, M Pean removed 2,100 tumors of the abdomen and pelvis Of the 585 new operations performed, 47 alone were unsuccessful

Yellow Fever Martyrs —Dr H R Stout, of Jacksonville, Fla, asks to correct a statement recently made in a New York journal, to the effect that a certain physician of the former place was the only one who remained during the yellow fever epidemic of 1888 Dr Stout says "All the physicians of the city, with one exception, remained here, and not only that, but most of us had the disease, and four of our number laid down their lives serving their fellow men"

The Profession in England —According to the Medical Directory for 1895 there are 26,790 physicians in the United Kingdom, of whom 21,055 are in England, 3,224 in Scotland and 2,511 in Ireland, or a mean of one doctor for 1,240, 1,280 and 1,875 of population respectively If we add the members of the profession in the Army, Navy and Indian Medical Services we have a total of over 32,000 London has 5,742 practitioners, or one to every 830 inhabitants, while in Paris the number is only 2,237, one to every 1,100 inhabitants

Action of Iron on the Organism —Rosendahl (*Eira*) has often observed that subcutaneous injections of iron salts in frogs causes gastro-enteritis The results of his experiments seem to show that the iron salts of the pharmacopœia are not assimilated by the alimentary canal of man or mammals if this tube is in a normal condition After their administration by the mouth they can not serve as material for the elaboration of hemoglobin, nor directly influence it For the treatment of chlorosis homol, homogallol or ferratin are much superior to the preparations of iron in use at present These new remedies may be destined to replace the latter, for the principal object of treatment of chlorosis is to increase the strength of the blood in hemoglobin

Liability of Railways for Surgeon's Malpractice —A comparatively new question which the courts are having to settle is that with regard to the extent to which a railway company that maintains a "medical department" is liable for the negligence of its physicians and surgeons In a recent case where this question was raised, it did not appear that the company was under any obligation by contract to furnish surgical and hospital accommodations for its injured employees, and so far as was shown, its doing so was wholly voluntary Nor were its employees under any obligation to avail themselves of the facilities for treatment offered, and paid nothing for them when accepted That the company maintained its medical department for its own advantage and not for charitable purposes only, the Supreme Court of Iowa holds (Eighmy v Union Pacific R'y Co, decided Jan 28, 1895, 61 N W Rep 1056) might be presumed, but that did not alter what appeared to be the fact, that it was not maintained to discharge any statutory or contractual obligations Its duty, under the circumstances, was to select a reasonably competent man for surgeon, and it was liable only for a neglect of that duty and not for any negligence or malpractice of the latter And in performing such duty, it was bound only to the exercise of reasonable care and diligence

Some Things a Physician can Testify To —A physician was permitted in a personal injury case, to describe the condition in which he found the plaintiff, giving both subjective and objective symptoms at the time when the latter became his patient, a year and a half after the accident happened This was objected to But the Supreme Court of Wisconsin holds, (Block v Milwaukee St R'y Co, decided Feb 5, 1895, 61 N W Rep 1101) that so far as his testimony related to the seriousness of the injury, this was competent Nor was it liable to the objection that it was hearsay So far as the knowledge of plaintiff's condition was derived from plaintiff's statements to him as a medical man for the purpose of receiving advice and treatment, the testimony was not incompetent for that reason It was also stated as an error that the doctor was permitted to testify that plaintiff's condition, as he found it, could have been produced by contact with a wire heavily charged with electricity And again the court holds that the testimony was both relevant and competent The doctor was also permitted to give his opinion of the "reasonable probability" of the plaintiff's ultimate recovery from his injuries Of this the court says that while it was true that the whole testimony must establish, in the minds of the jury, more than a mere 'reasonable probability,' and must amount to proof to a 'reasonable certainty," this ultimate fact was susceptible of proof by items of testimony which did not, separately, fully establish it The phrase "reasonable probability" was equivocal It was for the jury to give force to the doctor's testimony in accordance with the intention of the words used, rather than with a strict or technical definition of the words This was not error

Prophylaxis of Ophthalmia Neonatorum—In a recent communication to the Obstetrical and Gynecological Society of Paris, Budin recommends the use of a solution of argentic nitrate 1 to 150, for the prophylaxis of the ophthalmia of the new born—*L'Union Medicale* He divides the disease into two categories from a clinical point of view—primary and secondary The former occurs on the second or third day after birth, it is very grave if not attended to immediately. The secondary ophthalmia, occurring from the tenth to the twelfth day after birth, is less grave Primary ophthalmia is most often due to the gonococcus or the bacillus of Weeks, secondary ophthalmia, to the streptococcus, staphylococcus or pneumococcus Prophylactic measures are of two sorts First, hygienic surroundings and exclusion of all contagious diseases—erysipelas, whitlow, conjunctivitis, etc, second the washing of the child's eyes as soon as possible after birth with an antiseptic Crede's method—nitrate of silver, 1 to 50—is the best known Other solutions used are sublimate—1 to 5 000, carbolic acid, 2 per cent, lemon juice, iodoform, etc M Budin having noticed that Crede's solution often caused swelling of the eyelids and excessive lachrymation during the first few days employed a solution diluted to one third—1 to 150 Of 2,000 children treated thus 2 had cases of primitive ophthalmia The author recommends that midwives should be compelled to use this means, which entails little trouble

Medico-Literary Items—The author of the much quoted sketch "The Country Practitioner," has hitherto borne the pen name of Ian Maclaren His real name is Watson, the Rev John Maclaren Watson He is an eloquent preacher, a hard worker and a genuine Scotsman He has published a volume of short stories under the title "Beside the Bonnie Brier Bush"

Ginn & Company, New York, will soon publish Daniel De Foe's *Journal of the Plague Year*, or as it is sometimes called, "The History of the Plague of London"

Dr William H Thomson will publish through the house of Harpers a religious work "The Parables and their Home The Parable by the Lake"

Dr Conan Doyle has been engaged to write a series of historical stories for the London *Strand* He has chosen the title, "The Adventures of Brigadier Gerard," he being the modern presentment of a cavalry officer of the Old Guard of Napoleon The last book issued by Dr Doyle bears the title "Round the Red Lamp, being Facts and Fancies of Medical Life" These stories have not received the same favorable comment from the reviewers that was won by several of his earlier books One critic says of the later stories that they are always morbid, pessimistic, and that when they happen to be optimistic, they are not exciting

The number of new books on medical science and hygiene produced in 1894 was 140, new editions 21, this being a smaller number of new books than for 1893 Of this number, 161, there were 145 written by American authors Fourteen were by English authors, imported in sheets and bound in the United States

James R Cocke, of Boston, an Eclectic medicine man, has published a book of nearly four hundred pages on "Hypnotism," claiming to have hypnotized 1,300 persons

A recent book by Dr S Wier Mitchell, "When all the Woods are Green," tells the story of a party of pleasant folk who went salmon fishing on one of the Canadian rivers

Dr Arabella Kenealy of London, the author of a medical fiction called "Dr Janet of Harley Street," has a new work, "Some Men are Such Gentlemen"

It is not generally known that the late Lieut Frederick Schwatka U S A was a medical man as well as [illegible] author and lecturer But such was the fact [illegible] graduated from Bellevue Hospital Medical College, in [illegible]

The Appletons have produced [illegible] in his Anthropological Series The Pygmies [illegible] The translation is by Professor Frederick Starr The author has gathered all the latest facts regarding the small [illegible] of Africa

The Bacteriologic Laboratory of the Harvard Medical School

(Prof H C Ernst in *Harvard Graduate* [illegible] 1895) Believed to be the first of its kind [illegible] in connection with undergraduate [illegible] It is nine years since the first lectures were given [illegible] to medical students Since then no year has passed [illegible] advancement, either of the laboratory or [illegible] tion Its primary function is to teach [illegible] In the latter part of the first year there is a [illegible] of lectures and laboratory work and an examination [illegible] This course is brief practical and [illegible] for every practitioner In the fourth year the [illegible] the course extending over half the year and [illegible] extensive A second function of the laboratory [illegible] ing of specialists giving aid and [illegible] couraging original investigation This function [illegible] filled by a summer course of six weeks for [illegible] and by two courses for graduates during the winter The third function is the guidance of measures which affect the general public in connection with [illegible] The best example of this is the proved necessity for [illegible] logic diagnosis of diphtheria The [illegible] but require special training and a well equipped laboratory The most promising and important research that has been carried on in the laboratory is that of the late Dr S C [illegible], whose death arrested his work at its most critical stage It was an effort to isolate and cultivate the [illegible] of cowpox with the intent of substituting this for the ordinary vaccine virus This work was left at such a [illegible] that it seems as if money alone were needed for its accomplishment Important original work is now being carried on by several investigators It is probable that at least 1,000 examinations for diphtheria will be made during the present year The Board of Health of Boston has appointed the head of this laboratory to take charge of the work of production of the antitoxin for diphtheria and to be responsible for the efficiency and accuracy of the work

Society Notes

THE MEDICAL ASSOCIATION OF GEORGIA meets in Savannah, Ga, on April 17 18 and 19, 1895, officers elected are President, W L Westmoreland, Atlanta, Ga, Vice Presidents, R H Taylor, Griffin, Ga, W Tate, Tate, Ga, Treasurer, J C Goodrich, Augusta, Ga, Secretary, D H Howell, Atlanta, Ga

THE ILLINOIS STATE MEDICAL SOCIETY—The annual meeting will be held the third Tuesday in May, 21 to 23 The annual dinner will be an interesting feature of the occasion Although this is the forty fifth meeting of the society, it is the first attempt to gather together the members at an annual feast The well known custom of the Massachusetts Medical Society is intended to be followed Railroad rates have been applied for

Hospital Notes

AT a meeting of the executive committee of the Johns Hopkins Hospital held in Baltimore, March 12, Dr H C Parsons was appointed assistant resident physician, and Dr Theobald Coleman, assistant resident surgeon ——The cornerstone of the Lamar Hospital at Augusta, Ga, was laid March 12 ——The city council of Worcester, Mass, have voted to appropriate $30,000 for the construction of a new ward at the City Hospital ——The Hygeia Sanitarium at Kalamazoo, Mich, was destroyed by fire March 14 Loss estimated at $8,000

Louisville Notes.

Kentucky School of Medicine—This institution has sustained a great loss in the death of the President of its Board of Trustees, Rev John A Broaddus, D P ,LL D Dr Broaddus was a man of great worth, a prominent educator, a prolific writer, and a great scholar, and there is no man in the United States whose death could cause more widespread sorrow in Louisville than the death of Dr Broaddus He was born in Culpepper County, Virginia, Jan 27, 1824, and died in this city March 16, 1895 As was chronicled in these columns recently, Dr Broaddus made an address at the opening of the Kentucky School of Medicine and Hospital, and dedicated it to the cause of science, and for the use of the sick poor

Death Report—For the past week there were 86 deaths reported Of these 23 were caused by pneumonia, 7 from bronchitis, 8 from consumption, organic disease of the heart 4, la grippe 2, cerebral meningitis 5, and there were 3 stillbirths There were 53 males, 33 females, 57 white, 29 colored, 53 single, 33 married Nine deaths occurred at the City Hospital

Matthews—Dr Jos M Mathews made the address before the Marion-Sims Medical College of St Louis, Mo , on the 19th inst , at their regular commencement

St Louis Notes.

The St Louis Medical Society—At the meeting on March 16 the society discussed a resolution introduced by Dr William Johnston at a previous meeting which urged the Legislature to pass the bill now pending for regulating the practice of medicine The bill provides that no one shall enter into practice who has not previously obtained a certificate issued by a State Board of Examiners, to consist of seven members, four of whom are to be regular practitioners, three homeopaths and one eclectic The society rejected the resolution, thus refusing to indorse the measure Under the scientific program, perishable specimens were submitted by Dr L H Laidley and by Dr Carson, Drs Frey and Pollak discussed the special features of the cases A paper on Ainhum, with a specimen, was presented by Dr A H Ohmann-Dumesnil, and Dr H H Summa reported an operation, illustrated with a specimen No reference was made to the proceedings of the Committee on Ethics in the Loftus-Marks case It is understood, however, that all the evidence has been heard, and that the committee is ready to prepare its final report

The Beaumont Hospital Medical College held its annual commencement exercises Thursday evening, March 14, at which seventeen graduates were granted the degree of M D

The Barnes Medical College held its third annual commencement March 14, graduating a class of sixty-four

The Missouri Medical College graduated a class of seventy on March 19

The Marion-Sims College of Medicine held its annual graduating exercises on March 18, conferring degrees on a class of fifty-four Dr J M Mathews, of Louisville, addressed the graduates of the Marion-Sims College on the evening of March 18

Judge Rassieur, of the Probate Court, on March 16, denied an application for an inquiry into the mental condition of Arthur Duestrow, on the ground that this question was pending in a criminal court The application was made at the instance of Dr A C Bernays, who sought in this way to hasten the settlement of a bill for over $15,000 for services rendered in attempting to save the life of the paranoiac's wife, for whose death Duestrow is now under indictment The question of the prisoner's insanity is still undetermined in the courts

The Present Missouri Legislature has passed the following bills relating to medical interests Making it a felony to detain a person alleged to be insane without examination by reputable physicians, raising the age of consent to 18 years, to prohibit the practice or teaching of osteopathy without diploma, admitting oculists, aurists and dentists to the class of "practitioners of medicine," within the meaning of the statute exempting persons in these classes from jury service, fire department duty, etc , providing for examination of candidates for license as pharmacists by the State Board of Pharmacy

The following bills have been defeated Turning Fulton Asylum over to the homeopaths, exempting medical practitioners of all kinds from jury, fire department and military service, to compel labeling of packages of food and drugs with name of all ingredients—a pure food bill, making it a misdemeanor for a druggist to substitute some other article than that named in the physician's prescription without formal permission

Washington Notes

Medical Society of the District—At the meeting of the society held on the 13th inst, Dr Fry reported a case of Cæsarian section, both mother and child saved, and a case of symphysiotomy, child saved and mother made a prompt recovery without any alteration in natural gait Both subjects brought out a full and interesting discussion Dr Glazebrook presented some interesting specimens which he had collected in the coroner's department, viz , stab wound of heart, severe wound of kidney from fractured rib, primary ulcer of stomach with perforation and fatal peritonitis, gunshot wound of spinal cord, endothelial sarcoma of vermiform appendix, and gave the histories of each An interesting discussion followed

The Washington Obstetrical and Gynecological Society—The two hundred and twenty-fifth meeting of the society was held on the 15th inst Dr Adams read the paper of the evening, the report of a case of croupous pneumonia complicating scarlet fever Dr Sprigg reported a case of nephritis

The Benefit for the Woman's Clinic—The directors and friends of the Woman's Clinic gave a very pleasant musical entertainment for the benefit of the Clinic on the 11th inst The friends of the hospital were out in full force and a good sum was realized This hospital and dispensary is conducted almost entirely by women physicians and is doing excellent work

Smallpox in the District—There were two new cases of smallpox discovered last week Both were children in the same family They were promptly removed to the hospital and are doing well

The New Smallpox Hospital.—The work on the new smallpox hospital will very shortly be begun The reduction in the appropriation from $30,000 to $18,000 will cause considerable delay and possibly some alteration from the original plans The Commissioners are considering the advisability of following the original plan as far as the appropriation will go, and asking Congress next year for sufficient funds to carry out the original designs

Report on Sewers in the District—In compliance with a Senate resolution of February 22 last, the Commissioners have had prepared considerable interesting data relating to the paving of streets, the laying of sewer and water mains, etc , in the limits of Washington and Georgetown A list of streets showing the number of linear feet of each, wholly or partially supplied with sewer facilities, has been prepared by Captain Beach There are 102,300 feet of unsewered streets running east and west, and 72,250 feet partially sewered Of streets running north and south, including Georgetown, there are unsewered 108,350 feet, and partially sewered 51,450 feet In Georgetown there are 5,200 feet of unsewered streets running east and west, and 5 000 feet partially sewered running in the same direction The total estimated cost of building sewers where they are lacking is $1,008,000 Captain Beach states that there are an immense number of sewers in the city in such condition that they must be replaced in order to provide the city with proper sewerage facilities There are about fifty miles of such sewers

GOOD WATER FOR FORT MYER —The scare at Fort Myer by the discovery of polluted wells there has about subsided The new well capable of furnishing 100,000 gallons in twenty-four hours has been completed and the analysis shows the water to be exceptionally good in all respects

HEALTH OF THE DISTRICT —The report of the Health Officer for the week ended March 9 is as follows Number of deaths (still births not included) white 84, colored 42, total 126 Death rate per 1,000 per annum white 23 80 colored 25 10, total, 24.22 Death rate per 1 000 per annum for corresponding week last year, 23 17

AMENDMENTS TO THE MEAT INSPECTION BILL —The meat inspection bill approved March 2 carries the following amendments, and is regarded as an excellent health law The amendments are

That the Secretary of Agriculture shall also cause to be made a careful inspection of all live cattle the meat of which, fresh, salted, canned, corned, packed, cured or otherwise prepared, is intended for exportation to any foreign country, at such time and place and in such manner as he may think proper, with a view to ascertain whether said cattle are free from disease and their meat sound and wholesome and may appoint inspectors, who shall be authorized to give an official certificate, clearly stating the condition in which such cattle and meat are found, and no clearance shall be given to any vessel having on board any fresh, salted, canned corned or packed beef being the meat of cattle killed after the passage of this act, for exportation to and for sale in a foreign country, from any port in the United States, until the owner or shipper shall obtain from an inspector appointed under the provisions of this act a certificate that said cattle were free from disease, and that their meat is sound and wholesome

That said examination shall be made in the manner provided by rules and regulations to be prescribed by the Secretary of Agriculture and after said examination the carcasses and products of all cattle, sheep and swine found to be free from disease and wholesome, sound and fit for human food shall be marked, stamped or labeled for identification, as may be provided by said rules and regulations of the Secretary of Agriculture Any person who shall forge, counterfeit simulate, imitate, falsely represent or use without authority, or knowingly or wrongfully alter, deface or destroy any of the marks, stamps or other devices provided for in the regulations of the Secretary of Agriculture of any such carcasses or their products, or who shall forge, counterfeit, simulate imitate, falsely represent or use without authority or knowingly or wrongfully alter, deface or destroy any certificate or stamp provided in said regulations shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding $1 000 or imprisonment not exceeding one year, or by both said punishments in the discretion of the court

The authority and responsibility of the Secretary of Agriculture were further enlarged to cover the disposition of the carcasses of condemned cattle by the adoption of the following clause

The Secretary of Agriculture is hereby authorized to make such rules and regulations as he may decide to be necessary to prevent the transportation from one State or Territory or the District of Columbia or to any foreign country, of the condemned carcasses or parts of carcasses of cattle, sheep or swine, which have been inspected in accordance with the provisions of this act Any person, company or corporation owning or operating any such slaughter house, abattoir or meat-curing packing or canning establishment, or any employee of the same that shall wilfully violate any provisions of this act, shall be deemed guilty of a misdemeanor, and, on conviction thereof shall be punished for each offense by a fine not exceeding $1 000, or imprisonment not exceeding one year, or by both said punishments, in the discretion of the court

THE PUBLIC SERVICES

REPORTS OF SICK AND WOUNDED

WAR DEPARTMENT, SURGEON GENERAL'S OFFICE
WASHINGTON, D C [illegible]

CIRCULAR No 2

[illegible] Injuries [illegible] of Sick and Wounded [illegible]

CLASSIFIED LIST OF CAUSES OF ADMISSION TO SICK REPORT [illegible]

I—INFECTIVE [illegible]

[illegible]
Variola
[illegible]
Varicella
[illegible]
Typhoid fever
Influenza
[illegible]
[illegible]
Whooping cough
Diphtheria
Typhus fever
Cholera
Yellow fever
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Dysentery [illegible]
[illegible]

[illegible]

II—[illegible]

[illegible]
[illegible]
[illegible]

III—STRUCTURAL AND FUNCTIONAL DISEASES OF ORGANS

(A) Diseases of the Nervous System

Alcoholism, acute
Alcoholism, chronic
Delirium tremens
Apoplexy
Cerebral congestion
69 Chorea
70 Epilepsy
71 Insanity
72 Locomotor ataxia
73 [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Neuritis
Neuralgia
[illegible]
Paralysis
Other diseases of this class

(B) Diseases of the Digestive System

83 Corrosive and irritant poisons, effects of
84 Diseases of the salivary glands and duct
85 Diseases of the teeth, gums and alveoli
86 Diseases of the mouth and tongue
87 Tonsillitis same as 11
88 Pharyngitis
89 Peritonitis acute, same as 18
90 Dyspepsia
91 Gastritis
92 Gastric ulcer and hemorrhage
93 Colic
94 Constipation
[illegible]
Cholera morbus
97 Diarrhea, acute
98 Diarrhea chronic
99 Enteritis
100 Perityphlitis
101 Dysentery acute same as 17
102 Dysentery chronic
103 Hemorrhage intestinal
104 Fistula in ano
105 Hemorrhoids
106 Biliary colic and calculi
107 Jaundice, catarrhal
108 Hepatitis
109 Hepatic cirrhosis
110 Other diseases of this class

(C) Diseases of the Circulatory System

111 Angina pectoris
112 Cardiac irritability
113 Cardiac degeneration
114 Pericarditis same as 42
115 Endocarditis, same as 43
116 Valvular disease and results
117 Thrombosis and embolism
118 Aneurism
119 Varicose veins
120 Phlebitis
121 Other diseases of this class

(D) Diseases of the Respiratory Organs

122 Larynx, diseases of
123 Coryza
124 Bronchitis acute same as 14
125 Bronchitis, chronic
126 Bronchitis capillary
127 Emphysema
128 Asthma
129 Pulmonary congestion
130 Pulmonary hemorrhage
131 Pneumonia catarrhal
132 Pneumonia, croupous same as 15
133 Pleurisy, acute same as 16
134 Other diseases of this class

(E) Diseases of the Genito Urinary System

135 Pyelitis and pyelo nephritis same as 19
136 Nephritis, acute parenchymatous
137 Nephritis chronic parenchymatous
138 Renal cirrhosis
139 Calculus renal
140 Calculus, vesical
141 Hematuria
145 Prostatitis
146 Prostatic hypertrophy
147 Urethral stricture
148 Balanitis, non gonorrheal
149 Paraphimosis
150 Phimosis
151 Varicocele
152 Hematocele

141 Cystitis, same as 50
142 Enuresis
143 Retention of urine
153 Hydrocele
154 Other diseases of this class

(F) Diseases of the Lymphatic System and Ductless Glands

155 Adenitis, excluding 34 and 37, same as 52
156 Lymphangeitis, same as 51
157 Splenic hypertrophy
158 Other diseases of this class

(G) Diseases of the Muscles Bones and Joints

159 Muscular contraction
160 Muscular rheumatism and myalgia
161 Whitlow, same as 57
162 Osteitis and results
163 Periostitis, excluding 34 and 57
164 Arthritis, excluding 27
165 Arthritis, chronic rheumatic
166 Bunion
167 Synovitis
168 Other diseases of this class

(H) Diseases of the Integument and Subcutaneous Connective Tissue

169 Corns and warts
170 Ingrowing nail
171 Chilblain
172 Abscess, same as 53
173 Furuncle, same as 54
174 Carbuncle, same as 55
175 Ulcer
176 Hospital gangrene, same as 56
177 Dermatitis from poisonous plants
178 Erythemata
179 Psoriasis
180 Prurigo and lichen
181 Herpes
182 Eczema and pemphigus
183 Impetigo and acne
184 Scabies, same as 39
185 Dermatophyti, same as 40
186 Other diseases of this class

(I) Diseases of Organs of Special Sense

(a) Diseases of the Eye

187 Lids, diseases of
188 Lachrymal apparatus, diseases of
189 Conjunctivitis, acute
190 Conjunctivitis, chronic
191 Corneitis
192 Sclerotitis
193 Choroid, diseases of
194 Iritis
195 Retinitis
196 Snow blindness
197 Asthenopia
198 Cataract
199 Glaucoma
200 Amaurosis
201 Night-blindness
202 Other diseases of the eye

(b) Diseases of the Ear

203 Diseases of external ear
204 Diseases of the tympanum
205 Diseases of the middle and internal ear
206 Earache
207 Deafness

(c) Diseases of the Nose

208 Nasal catarrh chronic
209 Nasal hemorrhage
210 Nasal polypus

IV—ACCIDENTS AND INJURIES

(A) General Injuries

211 Burns and scalds, general
212 Crushing
213 Drowning
214 Exhaustion from fatigue or exposure
215 Explosion
216 Freezing
217 Hanging
218 Insolation
219 Lightning
220 Starvation, exclusive of disease
221 Suffocation, exclusive of disease and 217
222 Venomous bites, stings and wounds

(B) Injuries to Special Parts

228 Abrasions and blisters, mechanical
224 Burns and scalds local
225 Compression of the brain
226 Concussion of the brain
227 Concussion of the spine
228 Contusions and sprains
229 Dislocations
230 Foreign bodies, presence of
231 Fracture, exclusive of gunshot
232 Frostbite
233 Hernia, inguinal
234 Hernia, others
235 Orchitis from injury
236 Strain, muscular
237 Wounds, contused
238 Wounds, incised
239 Wounds, lacerated
240 Wounds, punctured
241 Wounds, gunshot
242 Secondary results of local injury
243 Other local injuries

V—UNCLASSIFIED

244 Malingering
245 Under observation or not diagnosed
246 Homicide
247 Suicide
248 Self maiming
249 Judicial execution

Medical officers in recording the causes of admission to Sick Report will make use of the nomenclature given above in all cases for which a specific title is provided Experience has shown that this list includes most of the causes of disability likely to occur in Army practice In recording cases for which a title is not specially provided, as for instance those which in a consolidation of the statistics would be tabulated under "Diseases of the mouth and tongue,' 'Diseases of the external ear," etc or thrown among "Other diseases of this class ' *such terms will be used as will briefly and accurately describe the disease or injury*, while conforming as far as possible to the nomenclature generally accepted by the profession Medical officers will report in this way, also when the cases are to be consolidated on the classified list under a generic term, as in certain of the diseases of the skin

In all cases in which the cause of admission is a local manifestation of a general affection the character and locality of the one and the nature of the other should be stated

The organ or part affected should be specified when the name of the morbid condition fails to indicate it as in paralysis, aneurysm ulcer herpes, etc as *also* in inflammations as adenitis, osteitis arthritis, synovitis, etc and in local injuries, as abrasions, burns, contusions, dislocations etc

Inflammations should be reported as acute or chronic The surgical characteristics of wounds, fractures, herniæ etc , should be stated, and in cases of poisoning the name of the poison should be given

Nothing in this circular is intended to relieve medical officers from the duty of recording the details of cases as required by paragraph 26, Circular S G O May 11 1893

GEO M STERNBERG, Surgeon General, U S Army

Approved
DANIEL S LAMONT, Secretary of War

Appropriations for Marine-Hospital Service, 1895

For marine hospital at Boston, Massachusetts For invalid elevator, one thousand dollars isolation ward, two thousand dollars in all, three thousand dollars

For marine hospital at Chicago, Illinois For extension to hospital buildings, ten thousand dollars

For marine hospital at Cincinnati, Ohio For steam laundry plant two thousand seven hundred dollars

For marine hospital at New Orleans, Louisiana For new laundry and attendants' building, five thousand dollars

For marine hospital at Wilmington, North Carolina For increase of hospital facilities by construction of new ward, seven thousand dollars

Quarantine Stations

For quarantine station, Reedy Island Delaware River For improvement of grounds to protect from overflow, four thousand two hundred dollars

For quarantine station, Delaware Breakwater, Delaware For naphtha launch for boarding vessels, four thousand dollars

For quarantine station, Brunswick, Georgia For completing addition to ballast wharf, three hundred dollars, ballast cars and tracks, three hundred dollars, hoisting engine, seven hundred dollars, raising trestle, two hundred and fifty dollars, in all, one thousand five hundred and fifty dollars

For quarantine station, South Atlantic For hospital barge (alteration to steamers), one thousand dollars telephone, three hundred and fifty dollars, in all, one thousand three hundred and fifty dollars

For quarantine station, San Francisco, California For naphtha or steam launch, three thousand dollars, cistern for water supply, one thousand two hundred dollars, in all, four thousand two hundred dollars

Quarantine Service

For the maintenance and ordinary expenses, including pay of officers and employees of quarantine stations at Delaware Breakwater Reedy Island Cape Charles and supplemental station South Atlantic Station (Sapelo Sound) Southport, Brunswick, Key West, Gulf, San Diego, San Francisco, and Port Townsend, one hundred and twenty five thousand dollars

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Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U S Army, from March 9 1895 to March 15, 1895

Major Charles L Heizman, Surgeon U S A (Ft Douglas, Utah) is granted leave of absence for one month, to take effect about March 10, 1895

First Lieut George D De Shon Asst Surgeon, is relieved from duty at Ft Logan, Colo , and ordered to duty at Ft Douglas, Utah

Capt Freeman V Walker Asst Surgeon, is granted leave of absence for one month, to take effect upon his relief from duty at Ft Trumbull, Conn

Capt Paul Clendenin Asst Surgeon leave of absence granted for seven days, is extended twenty one days The Attending Surgeon at Boston, Mass , will attend the sick at Ft Warren, Mass , during the absence of Captain Clendenin

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending March 16 1895

Asst Surgeon L L Young, detached from the Naval Hospital, Norfolk Va , and wait orders

Asst Surgeon Ammen Farenholt, ordered to the U S S ' Baltimore "

Marine-Hospital Changes Official list of changes of stations and duties of medical officers of the U S Marine Hospital Service, for the fifteen days ended March 15, 1895

Surgeon John Godfrey detailed as chairman of board for physical examination of candidates revenue cutter service, March 6, 1895

Surgeon Fairfax Irwin, to inspect Cape Charles Quarantine Station, March 9 1895

Surgeon F W Mead detailed as chairman of board for physical examination of candidates, revenue cutter service, March 6, 1805

P A Surgeon A H Glennan, to report at Bureau for special temporary duty, March 12, 1805

Asst Surgeon C H Gardner, to proceed to Angel Island Quarantine Station, for temporary duty, March 4, 1895 Detailed as recorder of board for physical examination of candidates, revenue cutter service, March 6, 1895

Asst. Surgeon W J S Stewart, detailed as recorder of board for physical examination of candidates revenue cutter service, March 6 1895.

Asst Surgeon J H Oakley, detailed for duty on revenue steamer ' Rush " March 13, 1895

Asst Surgeon H S Cumming, to proceed to Boston, Mass , for temporary duty, March 6, 1895

LETTERS RECEIVED

Ashmead A S , Philadelphia, Pa , Atkinson, W B , Philadelphia, Pa ; Alta Pharmacal Co St Louis, Mo

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The Journal of the
merican Medical Association

L. XXIV CHICAGO, MARCH 30, 1895 No. 13

ADDRESSES

AN ADDRESS

e Graduating Class of the College of Physicians and Surgeons of Keokuk, Iowa, at the Opera House, March [illegible]

BY HON. W. W. DODGE

OF THE BURLINGTON, IOWA, BAR

n an occasion such as this are we not forcibly inded of those beautiful words of Longfellow, in "Psalm of Life."

> Lives of great men all remind us
> We can make our lives sublime,
> And, departing, leave behind us
> Footprints on the sands of time;
>
> Footprints that perhaps another,
> Sailing o'er life's solemn main,
> A forlorn and shipwrecked brother,
> Seeing, shall take heart again.

This evening with pleasurable interest we have nessed the President of the College of Physicians d Surgeons present to the graduates of the class of 95, their diplomas. One can scarcely appreciate heart throbbings of a graduate who receives this tter of recommendation," this "honor," this "dis ction" from the faculty of the college that has n the scene of his hours, days and years of study d now like a fond parent witnesses the coronation his successful labor. The graduate who worthily ceives a diploma, which is its very meaning signi- s, "is a letter of recommendation," should esteem event as one of the proudest and happiest of his e.

To the graduate, the young doctor, may I suggest at you guard with jealous care this precious parch ent. Frame it, hang it on your office wall, there remain as a pleasant reminder of the labor and il of your school days. Treasure it as an incentive industry, ambition, and the use of your God given lents, so that in the autumn of your days, after you ve witnessed the 'leaves fall over the roots of the ee of life,' your fellow graduates may not only oudly point to you as a credit to your alma mater, it the rising generation may find so much that is ble, sublime and grand in your 'Footprints on the nds of time,' as to emulate you as an exemplar.

When I received an invitation a short time since om the faculty of this college to address you this ening, I felt that I had been particularly honored, pecially as I am not a member of the medical fra rnity, but only an humble disciple of Blackstone herefore in the course of my remarks, confined to e time limit of thirty minutes, if I should inadver ntly use the words "injunction," "mandamus," *et al*, eferring to the medical method of the prevention of isease, instead of prophylactic or some pharmaco œia or materia medica term, I crave you give me he benefit of all "reasonable doubt" as to the hon sty of my purpose.

From recent statistics I learn that there are in the nited States about 725 medical colleges now in operation, and that there are about 105,181 practicing physicians. In the State of Iowa it is said that we have some 3,618 physicians in active practice. There are seven medical colleges in Iowa, the oldest of these, if I am not in error, is the College of Physicians and Surgeons of Keokuk, and to-night we celebrate the fifty-fourth commencement exercises of this famous institution. It is the source of much gratification and pride, not only to the faculty of this college, but to the city of Keokuk, that the number in the class for this past year is 225, being an increase of nearly 100 per cent, and it is the largest class that has been here for twelve years. The past year shows an attendance of ladies twenty-one in number, two of whom have the honor of graduating in the class of 1895. The alumni of this college now numbers nearly three thousand. The high character of the members of the faculty of this college for learning and ability, the splendid and comprehensive course of study, a thorough equipment in all the essentials of its various departments, the past and present reputation for being one of the foremost and best colleges in the country, is what has given a name to the College of Physicians and Surgeons of this city to attract to it the magnificent attendance of this year, and to warrant a large increase in the years to come.

When one searches the labyrinths of the past for the fountain source of the science of the healing art," he is led into the realms of tradition, the temples of the gods, and the wonderland of heathen mythology. The more one searches for the morning light, on the early struggles of this mystic art the more he becomes impressed with the grandeur, the beauty, the beneficent purposes of the blessed science of medicine.

Away back in the dark ages of ignorance and superstition, it seems that the power of God lighted but few of the intellects of those days, and even those favored ones of Him who could heal those that touched but the hem of His garment were regarded by many as sorcerers, or possessed of the evil spirit.

To appreciate the curative methods of the modern physician, it is but for us to consider the means adopted by the ancient doctors of medicine in their mode of treatment of the afflicted. The priests who were the medicine men in those days, would establish themselves near thermal springs, or fountains, and among groves. Here would come the afflicted from every quarter seeking health. These places were nothing more or less than ancient health resorts, without the brass band and Wednesday evening ball of the present day health resorts. The healers of the sick would prescribe bleeding, purgatives, friction, and mineral waters. In many instances there would be recovery and benefit to health by reason of temperate habits, pure air and bathing. It seems that avarice with the ancient physician, as well as the modern, I am sorry to say, played an important part If the complaint was obstinate in yielding to the ordinary methods of treatment the fees would not only be increased, but the patient would be taken into a temple, there to be deluded into the belief that he must be purified by prayer, sacrifice and offering to the gods, before relief would come The imagination of the patient played an important part, and if the ordinary treatment was slow in producing healthful results the priests would resort to the use of snakes and non-poisonous serpents that had been tamed for the occasion, and these horrible creatures were made to play an important part in the healing art, by causing dreams and impressions upon the minds of the deluded and ignorant patients

As we turn the searchlight of investigation into the perspective of the remote ages of antiquity, seeking for truth and knowledge as to the early beginning of the science of medicine, we find helpful authority in the Bible, as also in heathen mythology Do we not recall the words of Job, spoken to his tormentors "Ye are forgers of lies, ye are all physicians of no value" And there is Jeremiah the prophet, lamenting over the condition of his people, and exclaiming "Is there no balm in Gilead, is there no physician there? why, then, is not the health of the daughter of my people recovered?" We read in the Scriptures that Joseph commanded his servants and physicians to embalm him, this being about 1700 years B C Thus it is shown that the Egyptians possessed men who practiced the healing art and embalmed the dead, both of which must have required a crude idea of general anatomy

It is to Greece, the land of art, that much of the ancient history of medicine can be traced, just as she furnishes every other art with the same historical advantages Of the early physicans, Æsculapius is the most famous By some he was considered the son of Apollo A number of the cities of Greece contended for the honor of his birthplace as they did for that of Homer Æsculapius, owing to his learning and wide knowledge of the science of medicine was given the title of the "God of Medicine" And there was Hippocrates, a great physician and philosopher, who was born in the year 460 B C, and it is said lived a century Because of his great learning and his wonderful discoveries in the field of medicine, and the fact that it is said that surgery was first practiced by him, he has been crowned the "Father of Medicine"

Galen was the most eminent physician during the second century, and the people had such great faith in his teachings that they were as a guiding star to the healers of the sick for a thousand years following The creeds of Hippocrates and Galen were accepted by the medical profession down to the time of that bold "Prince of Empirics," Paracelsus, born in Switzerland in the year 1493 He was highly educated and made a Professor of the School of Medicine at Basel, and while occupying this place, with great solemnity burned the books of Galen, declaring at that time that he had discovered the "elixir vitæ," by which life might be prolonged indefinitely He was nothing more or less than a charlatan, practiced the vilest arts, and being dissipated in his habits died at the age of 48 years

Of more modern physicians, William Harvey will be recalled as the one, who, in 1616, demonstrated the circulation of the blood There is John Hunter, the famous anatomist, Edward Jenner, an English physician who made himself celebrated by the discovery of vaccination as a preventive for that dreadful disease, smallpox This discovery was made by Jenner in 1776 while in the Alps watching the maids milking the cows On the cows' udders were sores, likewise on the hands of the maids, and while the smallpox was raging in the neighborhood, the milkmaids were free of the disease Jenner reasoned that the women had been inoculated with the "cowpox" which proved a prevention to the more terrible disease, smallpox Pasteur, the great French scientist, gave to the world in recent years a preventive and cure for hydrophobia Koch, the renowned German physician, discovered a "lymph" or tuberculin for the cure of tuberculosis Americans point with pride to Dr Samuel D Gross, the "Nestor of American surgery" There is Dr Behring, a German physician and student of Dr Koch, who is credited with giving suffering humanity the "serum" or "antitoxin," as a prevention and cure for diphtheria This discovery occurred but a few months since Thus I could continue to name the illustrious descendants of Æsculapius who adorn the pages of ancient and modern medical history

If, when Paracelsus proclaimed to the world his discovery of the "elixir vitæ," he had not in fact given to mankind a nostrous humbug, but a blessed boon, for indefinite continuity of good health and life, we should have but little use for the physician of to-day It seems that the Almighty, in His inscrutable wisdom did not intend to confer upon a human being a power, divine in its character and effect While such a blessing as an "elixir of life" has not come to us through human instrumentalities, let us not rail against the Divine will While we consider the wonderful advancement in the sciences of medicine and surgery, the thousand and one discoveries for the amelioration of suffering humanity, it is as little as we can do to offer a thankful prayer to the Giver of All, for these rich blessings to mankind

How true are the words of that Latin maxim "*Mens sana in corpore sano*," "a sound mind in a sound body" While the stability and maintenance of government depends upon the intelligence and virtue of its people, it must not be forgotten that the health, strength and physical development of the coming generations must be as jealously guarded In the early days the Romans were so ambitious to have only the finest specimens of manhood that the strictest laws were enacted relative to marriage, the weak and ill-formed were absolutely prohibited from entering into the marriage state, and only those possessing perfect health and strength were allowed to become the fathers and mothers of the warriors, statesmen and philosophers of those times

In our day, while no such marital restrictions surround the people, all nations are taking advanced steps in the direction of prevention of disease, as far as possible This is exemplified in the laws of quarantine at our seaports, the establishment of State boards of health, city sanitation, the power given to the health officer and local authorities to destroy buildings, fill up ponds or do such other acts as may be necessary to stamp out the hotbed of disease, and thus prevent the spread of a pestilence It is by such heroic means that an epidemic, which if unchecked, would carry death and destruction throughout the land, is prevented It is to the intelligent physician, aided by the enforcement of sanitary laws, that the community is largely indebted for its good or poor health It is to the physician that we must look in municipal bodies, to point out the sore spots that breed disease Imperfect drainage, impure water, poor ventilation, densely populated tenement houses where squalor, dirt and filth exist, are as dangerous to the health and life of the people as a dog with the hydrophobia upon the streets of a city Is it not true that physicians are the keepers of the public health and that by reason of their medical knowledge, their intelligence, and the knowledge that it is their duty to prevent, as well as to cure disease they can enthuse the people, give a cry of warning, erect bulwarks of defense, and determine the best methods to prevent an invasion of a dread disease? All honor, I say, to the educated, intelligent physician!

To speak of the 'family doctor' is as it were, to allude to a member of the family circle He is near and dear to every one in the household When dread disease or accident has suddenly stricken down a loved one, how anxiously we await his welcome footsteps, how, with trustful hearts, we listen to his cheering words, how he inspires us with the hope of a speedy recovery, how uncomplainingly do we follow his advice, and with hopeful smile we take the most detestable medicine he prescribes His position in the family circle is one of sacred confidence The secrets of a home are often imparted to him, while the happiness, love, and the all between man and wife are exposed to his honor or his treachery He comes to the bedside of the suffering mother, when in her hour of untold agony and indescribable torture—when two lives are trembling in the hand of fate—to help with tender care in bringing into this bright and beautiful world of love, sunshine and happiness, a new life to gladden the home It is from the cradle to the grave, at beck and call, the family physician comes to us in sunshine or storm, in daylight or darkness, like a ministering angel to soothe, comfort and cure Do I not utter the sincerest of benedictions which come from the heart of mankind when I say, "God bless the dear, kind-hearted doctor"

Members of the graduating class, I fully appreciate that I can add but little to the wholesome advice and timely suggestions of your instructors during your collegiate course of study, however, I beg the indulgence of a word Remember, that the world owes no man a living, and that he who eats of the bread of idleness can not hope to succeed That professional advancement and aggrandizement depends on individual effort If you desire to reach the goal of fame and riches, remember that ambition, honor, and the use of your God-given powers will do more to aid you, than to pray to Hercules to strangle the serpent of competition If you do not prosper, do not blame the rest of mankind The Philosopher Hobbes, of Malmesbury, once said that, "the natural state of man is war" Your professional education has equipped you for the battle of life, from this night on it will be your duty to fight Whether you will rise above the well-filled ranks of mediocrity depends on your own self, your willingness to continue the irksome search after knowledge, a persistent determination to surmount all obstacles, to keep your eyes toward the summit of professional eminence, where inscribed in living light are the immortal names of the illustrious members of your profession. May heaven's choicest blessings be in store for you may you live to enjoy a long, useful and happy life may the hand of Fate bestow on you fame, wealth and happiness, and in the yielding stone of time may your fondest dream be carved

LECTURES

LECTURES ON INTRACRANIAL SURGERY

II—CEREBRAL HEMORRHAGE AND ITS SURGICAL TREATMENT

BY EMORY LANPHEAR, M.D., PH.D.

ST LOUIS

By the expression 'cerebral hemorrhage,' we mean bleeding in the substance of the brain or into the cavity of the ventricles Until very recently such cases have been regarded as beyond the pale of surgical interference Indeed, only a few years ago Jacobson declared he could find but two cases recorded as having been operated upon and Horsley—one of the boldest of cerebral operators—as late as July, 1890 advised tying the common carotid in every case of bad cerebral hemorrhage within four hours after the attack But recently quite a number of operations have been reported with improvement in most cases, and surgeons are beginning to realize the brilliant possibilities in certain classes of hemorrhages, viz cortical or surface hemorrhages, subcortical and ingravescent or progressive apoplexy

Most authorities have until lately, decried against operation for the reason (as expressed by Starr, of New York) that when a hemorrhage has occurred within the cerebral hemisphere, lacerating the tracts and destroying the tissue operative interference is out of the question, for tissue once destroyed in the brain is not repaired by Nature, and even if repair were possible the surgeon could not reach and remove the clot without further laceration of very important cerebral structures or serious cerebral hemorrhage" Experience has shown, however, that if the clot be removed early and be not too large, serious permanent injury may sometimes be averted further more the brain may be freely incised in certain directions without marked harm, especially if over a clot which has already destroyed the communicating fibers, and the competent surgeon can usually control any bleeding he may cause in the brain or elsewhere

Unfortunately it is not always an easy matter to make a differential diagnosis between a hemorrhage which may be safely reached by the surgeon's knife and one which is of basal or nuclear origin, nay, more—it is often a matter of some difficulty to find the bleeding point or even the blood clot after trephining As a consequence the operator sometimes is compelled to adopt the advice of Kronlein[1] "In cases where the surgeon is reasonably certain that the symptoms of compression are due to hemorrhage, exploratory trephining is to be continued until the hematoma is found" If not located and removed, at least relief from pressure is afforded by cutting a large opening in the skull, provided the bleeding has already ceased

In the "ingravescent form"—that in which the symptoms are slight at the outset but gradually become more intensified—trephining should be done before the blood reaches the ventricles, bleeding into the lateral ventricle may proceed from rupture of a vessel of the choroid plexus or the velum interpositum, but only in rare instances as the usual source is some artery in the brain substance, the blood simply breaking into the ventricles after a considerable clot has formed, so it is rarely necessary to open them, if operation be done early

According to Edes, the most common form of intracranial hemorrhage has its seat in the white substance of the brain which is consequently more or less lacerated, such a clot may vary in size from a mere point to many ounces, filling a cavity nearly as large as the hemisphere The vessel which most frequently bleeds is that which is given off from the middle cerebral and runs along the outer side of the nucleus lenticularis where it is covered by the external capsule, hence the large number of clots found in the white substance of the internal capsule Therefore when the hemorrhage is not found as a meningeal or subcortical lesion as anticipated, this is the point to be sought if the symptoms indicate the middle fossa, if the clot be located outside the internal capsule it may be removed with comparative safety through a large opening in the skull—three or four inches by one and a half or two

Hemorrhages in the thalamus opticus usually originate in the posterior communicating artery or the posterior cerebral and are too deep to be reached

DIAGNOSIS

No attempt at surgical diagnosis should be made while the patient is in deep coma After the severer apoplectiform symptoms have disappeared, embolism must be carefully excluded as trephining would be wholly inexcusable in the latter disease The points of differential diagnosis can be found in all good text-books on neurology, they are foreign to our theme and are therefore not considered It is well also, in determining the character of the disease to exclude hemiplegic forms of intracranial syphilis, and tumors which may be suddenly manifested, though since gummata, if accessible, should be removed as should curable forms of tumor, the differential diagnosis is not so important The following rules will be found useful in deciding whether or not operation is justifiable when the diagnosis of cerebral hemorrhage is clearly established

1 When there has been a blow upon the head, and hemiplegia, aphasia or hemianopsia follows, there is nearly always a hemorrhage which may be cured by opening the cranium at the point indicated by cerebral localization

2 A slight premonitory attack, affecting speech temporarily or producing a heaviness of the hand or foot (or both) for a few minutes, if followed by hemiplegia may be taken as a good point in favor of operation, as the bleeding vessel is probably on the surface or very superficial

3 When the case presents a history of moderate loss of power or even complete hemiplegia without loss of consciousness, followed in a few hours by the sudden appearance of coma, a marked fall of temperature succeeded by some fever—a hemorrhage has broken into the ventricles or just beneath the meninges, is still progressing and indicates immediate trephining, a day or two afterward will be too late—so if done at all it should be performed within a few hours, if possible

4 Bilateral hemianopsia (blindness of corresponding sides of both eyes) appearing suddenly is apt to be due to a hemorrhage in the occipital lobe of the opposite side, sufficiently large to be easily found, and justifies exploratory operation

5 Vomiting, severe occipital headache and vertigo, with or without distinct paralysis, with ocular symptoms of nystagmus or strabismus, appearing suddenly, render a diagnosis of cerebellar hemorrhage probable and indicate exploratory trephining.

6 Paralysis of the third, fourth or sixth pairs of nerves indicates a lesion of the pons and contraindicates operation

7 Paralyses of very limited extent, especially if complete, are not often due to hemorrhage, being local palsies rather than the peripheral symptoms indicative of cerebral disease

8 A very severe headache, followed by gradual but persistently deepening coma, with hemiplegia becoming more and more nearly complete, means a hemorrhage into the great basal ganglia—beyond surgical help

9 Very sudden and complete hemiplegia and coma (coming on as if the patient were struck with a hammer) contra indicate operation, particularly if the patient be under 50 years of age, the disease is probably embolism, heart lesions, endoarteritis, a septic process and syphilis strengthen the probability.

10 Profound coma and relaxation without hemiplegia usually depends upon injury of the pons and decide against operation

11 According to Hughlings Jackson, convulsions, early rigidity and conjugate deviation of the eyes of a spastic form are conclusive evidences of superficial hemorrhage But convulsions always accompany cerebral hemorrhage in young persons, regardless of location

12 As an assistance in locating the clot, Durand-Fardel's figures may be quoted Of 177 cases the hemorrhages were in the ventricles sixty-six times, in the meninges thirty-one, in the corpus striatum and thalamus opticus twenty two, in the white substance of the middle lobe eighteen, in the corpus striatum alone thirteen, in the corpus striatum and hemisphere twelve, in the anterior lobes eleven, in the posterior lobes eleven From which we see that a considerable proportion may be regarded as within the reach of the surgeon

OPERATION

The surgical treatment of cerebral hemorrhage consists of 1, ligature of the ruptured vessel, 2, pressure stoppage of the bleeding if tying is impossible, or 3, arrest of the carotid stream by ligature—all for checking further bleeding, and removal of a mischief-producing clot after cessation of the hemorrhage, for many distressing symptoms may frequently be relieved by the operation

Of the first the probable location of the lesion having been decided, the head is shaved and cleaned by thorough scrubbing and washing with sulphuric ether or alcohol, and sublimate solution 1 to 1000, and a large flap of skin and pericranium laid back. A trephine is applied and the "button" removed, when the opening is enlarged to the size of two by three inches over the area involved The dura is then incised and turned back and search made for superficial bleeding, if found, the clots are cleaned out and the vessel tied if still active, a small thread of catgut being passed around it by a curved needle and gently tied—it not being best to use much force lest the fragile artery be cut in two If not found upon exposing the brain an incision is made near the middle of the particular center indicated this cut must be vertical to the ganglia i e parallel to the fibers of the corona radiata The knife must be put more than an inch into the brain at the first stroke and the cut ought not to be more than an inch and a half long The margins of this incision are gently pulled apart (with broad dissecting forceps or two flat blades) and the white substance inspected for the clot When the clot is not found in the meninges or as a subcortical hemorrhage in the region indicated by cerebral localization, attention must be directed to the lenticulo striate artery This vessel (described by Gray as the largest of the antero lateral ganglionic branches of the middle cerebral) is called by Charcot the "artery of cerebral hemorrhage from the frequency of rupture The point at which it most frequently gives way may be reached by cutting about one inch in the direction of the lateral ventricle just behind the lower end of the Rolandic fissure or in the tempero-sphenoidal convolutions at the upper margin If not found here further exploration is scarcely advisable, though personally I should extend the cut first made so as to open the lateral ventricle, as in Case 4 presently to be related

The clot being found, the cavity made by it is thoroughly cleaned out with the finger and irrigated with sterilized water at a temperature of 105 degrees Any bleeding vessel must be caught (if possible) and tied with catgut as elsewhere in the body When the cavity has been washed out a few strands of catgut are inserted through the cut in the brain, left long enough to protrude through the dura and scalp, or if the ventricles have been opened a very small drainage tube may be put in as advised by Keen The dura is now closed by a continuous catgut suture —except at the point of drainage—and the scalp also in a similar manner An abundance of iodoform gauze is placed around and over the opening, with much bichlorid gauze and cotton over all, properly held in place by bandages

Of the second when the bleeding point is found but for any reason can not be caught and tied, to check the flow one must first irrigate carefully and then pack the wound tightly enough to stop the hemorrhage This method of treatment is not satisfactory because the gauze causes as much intracranial pressure as the clot and so the bad symptoms continue, but the packing need not remain more than thirty six hours and may be very gently removed at the end of twenty four hours if specially irritating Improvement will be noted at once (Even hemorrhage from the superior longitudinal or lateral sinuses may be controlled in the same manner, but the gauze must be left as long as forty eight hours in such cases)

Of the third Victor Horsley first demonstrated, by experimental work on monkeys, that ligation of the common carotid upon the affected side checks the flow of blood in a ruptured lenticulo striate artery as well as in the middle cerebral, the collateral circulation through the circle of Willis being at first very slight The temporary cessation of the flow thus secured allows the bleeding to stop, and subsequent collateral circulation does not give rise to secondary hemorrhage As ligation of the carotid can be done easily and as if careful antiseptic precautions be observed primary union may be obtained, the operation is perhaps justifiable if performed inside of three or four hours, since by arrest of the carotid stream the clot may not become as large as might be the case if the vessel were left to bleed indefinitely, and so permanent hemiplegia softening [illegible] may be prevented in some cases But it is not permissible to do this later than six or eight hours after the onset of coma

CASES

That the first rule laid down as to early operation is not without its exceptions is shown in the following case

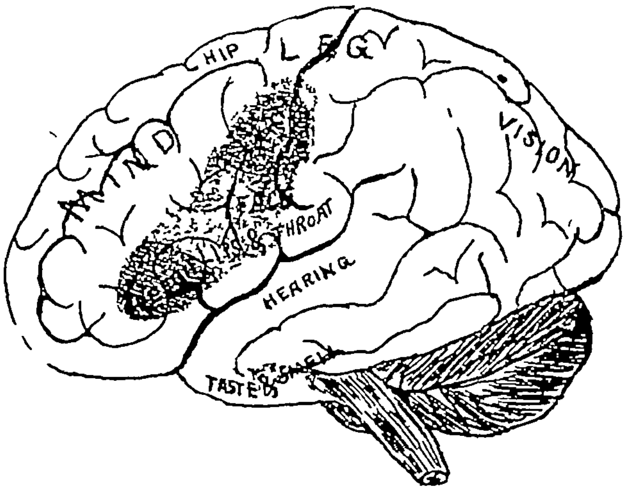
Case 1—Thomas L patient of Dr J I [illegible] Kansas received a blow upon the head which was followed by symptoms which pointed to hemorrhage in the [illegible] Rolandic area and tempero-sphenoidal region of the left hemisphere without evidence of fracture I [illegible] the skull low in the temporal region and removed a large clot from beneath the part which came from a rupture of the parieto-sphenoidal branch of the middle cerebral artery The patient stood the operation well all the symptoms of compression disappeared and we [illegible] to [illegible] recovery We were sure there was no [illegible] mation during the operation and there was none [illegible] at the first dressing when the drainage was [illegible] were greatly surprised when [illegible] after operation, which proved fatal six days after [illegible] autopsy showed a fracture of the base [illegible] the middle ear—hence the meningitis and death

Here is a case that doubtless might have [illegible] had there been no complicating fracture of the petrous portion of the temporal bone through which a meningitis from infection sprang A peculiar feature was that there was not, from first to last, a single symptom—save the meningitis—which indicated fracture of the base

A case illustrating the second rule was reported by myself some two years ago in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION The points of interest may be briefly summarized thus

Case 2—Dr W C B in June, 1891 consulted me about an attack of temporary aphasia and paresis of the right hand arm foot and leg this passed away in a short time, leaving him entirely well but anxious I diagnosticated a slight surface hemorrhage and prescribed potassium iodid for possible tertiary trouble Oct 10 1891 I was called to Carthage Mo by his physician Dr K F Scott He had had (about ten days before) a return of the aphasia and partial paralysis which passed away after a few minutes He started for home some little time afterward but fell totally unconscious and hemiplegic In the interval between the "stroke" and my visit he never entirely regained consciousness, the hemiplegia was complete and though he could be aroused to a sufficient degree to understand simple things he could speak no word During the few days immediately before my examination he had been failing very fast as indicated by rapid emaciation, paralysis of the bladder, dysphagia and fever (temp 100 to 101 degrees F) with terrible headache and insomnia, strength failing very rapidly I therefore decided that the patient would die and that he should have the benefit of operation I opened the skull over the motor and speech centers and found no pulsation of the dura which bulged into my large opening Upon incising the dura the brain presented a discolored appearance and softening of the arm and speech centers seemed to have begun The clot underlaid that portion of the cortex which presides over speech and motion of the face and extremities of the right side and had exerted so much pressure upon other parts of the hemisphere as to render them blanched The area of the clot is represented approximately in the accompanying diagram

After removing the softening mass, including a part of the arm center, I irrigated with hot bichlorid solution, 1 to 6000, put in catgut drainage and closed the wound, replacing a part of the bony tissue removed The duration of the operation was one hour and thirty five minutes—some time having been lost on account of difficulty with the anesthetic At one time we thought the patient would die upon the table, but he was put to bed in good shape After closing the scalp it was discovered that normal brain pulsation had returned at the opening in the skull He slept nicely all night—quite a contrast to the moaning and tossing of two or three previous nights of insomnia for which sulfonal and morphin (gr ¼) had given no relief At 9 A M next day he appeared much brighter and nodded and smiled when asked if he felt better, the headache was gone, considerable motion in foot was obtainable upon requesting him to move Improvement continued from that time on—the temperature being normal, and primary union being obtained He sat up on the fifth day and on the twentieth day after operation rode more than two hundred miles The subsequent history is one of restoration to health with ability to walk and care for himself, but the use of the hand has never been regained, nor has his speech



From the fact that this patient seemed almost *in articulo mortis*, I am satisfied that the operation saved his life and probably had much to do in preventing permanent paralysis of the leg Sometimes it is possible to give some relief even after a considerable time has elapsed, as is shown in a case almost precisely similar to the one just mentioned, the interesting features of which I will relate

Case 3—I M, of Oklahoma, age 54, came under my care in June, 1892, affected by complete hemiplegia and aphasia due to a cerebral hemorrhage which occurred more than three months before He complained of much headache upon the left side, insomnia, and general ill health, at times homicidal and suicidal tendencies had been noted following periods of sleeplessness and great irritability I sent him to the hospital and with the assistance of Drs T B Thrush and J C Maxson operated I removed three one-inch buttons over the leg, arm and speech centers, and joined these openings with bone forceps, placing the fragments in hot bichlorid solution, 1 to 4000 On opening the dura no evidence of hemorrhage was to be seen except a white infiltrate over the speech and lower part of the arm centers Believing there had been a rupture of the lenticulo striate artery I cut through the brain to the region of the internal capsule A large quanty of broken-down brain substance immediately oozed out, so I extended the incision upward and introduced my finger into the cavity, removing two fragments of the clot, each about an inch in length, together with a lot of *débris* I then irrigated the cavity with sterilized normal salt solution, established drainage with several strands of catgut, stitched the dura and replaced the pieces of skull in a kind of mosaic, carefully suturing the scalp and applying a gauze compress so as to hold them in place, with the usual dressings

Convalescence was speedy and uneventful For three days there was a little fever (100 degrees F) and no improvement was to be seen But at the end of that time the temperature became normal all the distressing head symptoms disappeared and then motion began to return slowly in the affected side In a few weeks the patient was walking around by the aid of a cane with but little difficulty Motor power has never returned in the hand, but the arm and forearm now have some motion Speech was not restored The bladder irritation and obstinate constipation—so prominent before the operation—entirely vanished, the mental symptoms never recurred and the patient regards himself as vastly improved

The only case upon which I have operated which comes under my third rule was this

Case 4—J P E, male, age 52, a patient of Dr Kistler, of Kansas City, I first saw at 4 P M, on March 31, 1893 I found a hemiplegia of the left side which came on thirty-two hours before, while he was straining at stool, for some hours previously he had complained of vertigo, and had mentioned a "bad feeling" in the head and a heaviness of the left hand and foot two days before, at which time he went to bed with some vomiting—ascribed to biliousness, and for which a cathartic was administered, from this came the straining which caused the bleeding He had a temperature of 100 degrees F His mind was not much affected until more than twenty-four hours after the attack, but for eight hours there had been wild delirium and at the time of examination he suddenly became comatose A severe convulsion would occasionally appear upon the paralyzed side, from which I expected to find a hemorrhage just beneath the membranes. I therefore ordered him to be carried to the German Hospital

At 9 P M, coma was complete, so without any anesthetic I opened the scalp and removed a piece of skull two inches by four inches over the motor area The dura was very tense and pulseless and upon cutting the dura the brain protruded prominently into the opening at which relief of pressure the patient began to show such signs of returning consciousness as to require a little chloroform There were no surface indications of hemorrhage, so I cut inward through the parietal convolutions until the greatly distended ventricle was reached Here there was a large quantity of semifluid blood, and broken-down brain tissue, which I removed as gently as possible and then irrigated with hot normal salt solution As oozing into the ventricle continued persistently a little iodoform gauze was gently packed in the wound and the ventricle and allowed to protrude through the dura Bulging of the brain was far less marked and after the dura was sutured around the gauze packing, cerebral pulsation was found to have returned The usual dressings were applied

At 10 A M, April 1 the patient died—the attending physician said from "shock" Owing to my departure from the city no autopsy was held, so the source of hemorrhage was never determined[1]

ORIGINAL ARTICLES

SEVEN CASES OF CEREBRAL SURGERY

BY C E RUTH, M D
PROFESSOR OF DESCRIPTIVE AND SURGICAL ANATOMY, KEOKUK MEDICAL COLLEGE, PROFESSOR OF CLINICAL SURGERY AT ST JOSEPH'S HOSPITAL, KEOKUK IOWA

Believing that cerebral lesions not accompanied by fracture or even trauma represent a large proportion of the cerebral cases requiring relief at the hands of the surgeon, I present the following cases in support of that view

Case 1—May 9, 1891, was called to see L G, age 5 years, who had four days previously sustained an injury by falling fifteen and one half feet, striking her head on a plank sidewalk No evidence of fracture of the skull was found at that time or subsequently She slept eighteen hours in twenty-four, temperature 99 5, pulse 72 Sensation and muscular coordination normal Appetite was good and bowels regular Slight mental hebetude Right side of head and face greatly swollen and discolored Extravasation of blood under the ocular and palpebral conjunctiva Left pupil responded to light readily Swelling prevented inspection of the right pupil A small swelling was found to the left and slightly behind the bregma

Diagnosis, intracranial clot Operation was made as soon as possible, the small swelling to the left of the bregma was cut down upon and a clot turned out which had formed between the bone and pericranium Removal of a small disc from the center of this pericranial denudation brought another clot into view, which had formed over the anterior branch of the middle meningeal artery between the dura and anterior border of the parietal bone Recovery was complete in two weeks without event

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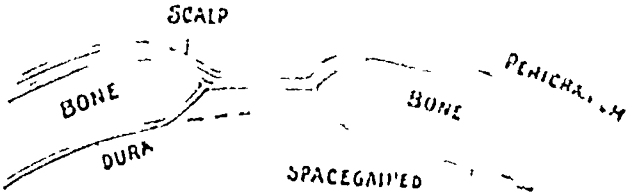
[1] I believe this man would have been saved if the operation had been made a few hours earlier, before the blood broke into the ventricles That my patient died is no objection to the rule I have given as a number of cases of progressive hemorrhage have been treated surgically by other operators with brilliant results

Case 2—C B, age 71 years was struck Feb 22, 1892, by the limb of a tree weighing eighty-five pounds which had fallen forty feet The blow was received slightly to the right of the median line and in front of the fronto parietal suture The scalp wound indicated that the blow glanced slightly backward I did not see the patient for several days after the injury, at which time the scalp wound had healed Muscular incoordination marked and memory *nil* Left patellar tendon reflex was abolished Owing to dangerous cerebral compression symptoms, and noting no improvement in his mental condition on March 10, 1892, I trephined his right parietal bone beginning at the posterior part of the old scalp wound and extending backward three inches On opening the dura a large amount of subarachnoid fluid was discharged No clot was found There was no laceration of cerebral tissue but arterial and especially venous engorgement was marked Recovery took place without incident and was complete in three weeks This patient was entirely relieved from former severe headaches which had occurred every two weeks for many years

Case 3—Jan 18, 1893, I was requested to be present at an autopsy made by Dr Kinnaman on J T, aged 9 years, colored, who had died suddenly at his home under suspicious circumstances Removal of the scalp showed contusion of its under surface, one and one half inches in diameter, behind the fronto-parietal suture and to the left of the bregma Removal of the skull cap showed an immense blood clot which extended from vertex to base and covered almost the entire left hemisphere of the cerebrum The cause was evidently a blow on the vertex at the site of the scalp contusion and probably produced almost instant death The skull in this case was very thin and possessed great elasticity No fracture of the skull

Case 4—This case I place here out of order in point of time because it is traumatic in origin Oct 10, 1895, Peter V, aged 9 years was brought to me with a history of injury received in September, 1894, while in a wagon drawn by a badly frightened horse in a runaway The nose was broken and driven backward and when I saw the case four months after injury, I found a scar crossing the nose at lower end of nasal bones, well out upon the left cheek, and about an inch to the left of the median line a small sinus discharged pus in considerable quantities Pus was also being freely discharged from both the lachrymal sacs The parents said that his nose though raised considerably at the primary dressing, was not its usual height He was unconscious twenty-four hours after the injury, then appeared to recover completely save the discharge of pus previously mentioned which had been continuous since three weeks following the injury Within four weeks he begun vomiting in the morning about 4 o'clock and then vomiting occurred at irregular intervals during the day up to the present Parents noticed that for the past month he has not been as bright intellectually as normal, could not say some words he formerly spoke well, did not see well, could not grasp anything firmly with the right hand and dragged the right foot Would fall if he was not steadied when he attempted to walk Pupils responded pretty well to light but a little sluggishly, convergence was impossible Eye movements otherwise normal Temperature normal, pulse 70 Diagnosed cerebral traumatism with secondary degenerative changes in the left frontal lobe extending well backward near the middle line and towards Brocha's convolution Trephined the left supra orbital region The pulsating dura bulged strongly into the opening All the membranes were adherent from former inflammatory changes and the cerebral tissue greatly softened With a cataract knife and small trocar I explored the major part of the anterior left frontal lobe but found no fluid accumulation of any kind Some broken down cerebral tissue was removed, one half inch opening was left in the dura and large gauze drain introduced I could find no fracture of the horizontal plate of the frontal bone Drainage was maintained for three weeks and at least calculation three drachms of broken-down cerebral tissue and old clot was discharged Improvement in his mental condition was prompt, soon appeared normal, and he was able to speak any word that he had formerly known He was able to walk without aid of any kind within one week after the operation Great swelling occurred of the palpebral tissues with eversion of the conjunctiva At the end of the second week tears were discharged at the old drainage points in the forehead but are now closed Though the wound was dressed daily no suppuration has taken place



It is too soon to make a positive declaration of the results in this case The remnant of an old blood clot which seemed to be the basis of the bond of union between the membranes was almost certainly produced by the original injury, and forces one to the conclusion that early operation would almost surely have saved this boy much of the danger through which he has passed with better prospect of perfect recovery In each of these cases there was no fracture, and the ages were from 5 to 71 years, yet in each there was a serious if not a fatal lesion The only rational treatment must be that of removal of the products of trauma, whether that be blood clots, increased accumulations of cerebro-spinal fluid, abscess or devitalized cerebral tissue By early operation we may hope to give the damaged brain a chance of restoration by improvement in its circulatory possibilities before permanent impairment of function, paresis, paralysis, epilepsy, idiocy or death of the individual In Case 3 death was probably instantaneous In Cases 1 and 2 operated upon, one in four days, the other three weeks, recovery was perfect

We have no hesitation in saying that all cases of cerebral trauma not accompanied by fracture in which symptoms of compression, dangerous, pronounced and persistent motor or mental disturbance occur should be operated upon No age is exempt from traumatic intracranial lesions without fracture, as is shown by my three cases in children and one in a man of 71, as well as a case reported to me by Dr Gaston of a man 50 years of age who received a blow on the occiput which produced rupture of the middle meningeal artery under the anterior part of the parietal bone which was fatal from secondary inflammatory trouble about the clot No fracture The site of the application of the trauma or the course of the branches of the middle meningeal artery will indicate the points to be explored in the absence of localization symptoms We can see the necessity for a guarded prognosis and can not pronounce our patients positively well till the lapse of many weeks or months, and should keep them under observation so as to detect the first evidence of danger

Case 5 —E B , age 36 Epileptic since 14 years of age Memory and general intelligence greatly impaired Nystagmus pronounced General health good Paretic on left side from infancy, with very little use of the left hand and drags the left foot Convulsions started in the left side to which they were confined until they became general ten years ago No history of injury or marked assymetry of the skull Jan 14, 1894, I removed three inches of bone over the fissure of Rolando, and identified the arm and leg centers with brain electrode Convolutions were defective in development, pale, and widely separated by broad and shallow sulci Recovery was prompt and apparently complete in two weeks and the relatives thought they noted marked mental improvement but that is to be taken with considerable allowance He contracted double pneumonia from which he died at the end of one month from the operation This case was operated upon in the hope that it might lessen the frequency and mitigate the severity of his epileptic attacks and thus, if possible, save what intellect he had

Case 6 —W W , age 38 Steamboat raftsman Well and exceptionally strong till Oct 18, 1893, at which time he became suddenly and completely paralyzed in the left arm and leg He was infected with syphilis eighteen months previously April 14, 1894, six months after the onset of the paralysis, I diagnosed the cause of the paralysis to be embolic obstruction of the ascending parietal and frontal arteries to the motor area of the right side, and removed three and one-half square inches of bone along the fissure of Rolando Brain was anemic, pulseless, did not bulge into the opening, and no muscular response could be obtained by the electrodes beyond a general tremor No abnormal resistance could be detected Recovery was complete from the operation in three weeks and at the end of six weeks he was able to walk by the aid of a chair, but the gain that was at first promised in the arm was not maintained His skull was scant one-half inch thick and composed almost entirely of dense compact tissue He left the city at the end of seven weeks but returned in October, 1894 Nov 17, 1894, I did a secondary operation on him before the Eastern Iowa District Medical Society, in which I nearly doubled the space from which the bone was removed, being mainly extensions backward from the upper, and forward from the lower end of the Rolandic fissure Improvement following the secondary operation has not been as marked as that following the first one, and is probably due largely to the lapse of time since the primary lesion and teaches us another lesson in promptness He can now walk by the aid of a cane

This case would seem to indicate that reduction of the cerebral tension to below normal by removal of bone and establishment of drainage, may bring about considerable restoration of function in portions of brain supposed to be damaged beyond the possibility of repair, from embolic obstruction of a terminal artery At the secondary operation in this case, I learned that the edges of the old opening were beautifully beveled, equally from the outer and inner tables, and that the pericranium and dura were blended to the opposite side, so that the actual gain in cerebral space is represented by one half the thickness of the bone, less the normal convexity of the part, for the membrane will pass directly across from the bony attachment at one side to that of the other, if it is not carried outward by intracranial pressure From this, it will be seen that the gain in cerebral space, by removal of the skull, will be relatively greater with a small opening In this case it was nearly one fourth inch, for the thickness of the skull was scant one-half inch This relief of tension may also enable neighboring parts of the brain to take up part of the work of a destroyed or crippled center, as is the case where a center is excised

Case 7 —Nellie P , age 5 years Was well until after a fall at the age of 1 year, at which time she could walk and talk some Following this fall she had nine convulsions in three weeks Three weeks later she had spasmodic contractions of the entire left side for twelve hours, followed by complete paralysis of the left arm and leg Twenty days later she had an intense fever accompanied by general convulsions for eight hours, closing with movements only of the left side She has never spoken since the attack and could not walk again until one year ago Drags the left leg and does not use the left arm Now has frequent general epileptic seizures and is idiotic May 23 did right sided craniectomy and removed three inches of bone over the fissure of Rolando Found defective development of the cerebral convolutions There was no assymetry of the skull and no evidence of fracture Though I am convinced that this patient sustained a cerebral injury from the early fall, which prompt and intelligent surgery might have readily recognized and removed, the time for such procedures had gone by She took the anesthetic badly and died in eight hours

Early signs of collapse in this case prevented application of electrical tests for the motor centers, and the ultimate result has not lessened my skepticism regarding the justifiability of craniectomy operations in cases of idiocy, even if due to traumatism when there is no assymetry of the skull, and the history of injury dates back to early life and has been of several years' standing In the adult we can hardly expect marked improvement in motor disturbances after the lapse of one year with or without operation In Case 6, paralysis of the arm occurred twelve hours before that of the leg, and would indicate that the ascending frontal and parietal arteries arise by a common trunk from the middle cerebral, the ascending frontal was first plugged and the embolism, probably specific in origin, developed backward so as to involve the ascending parietal in twelve hours and thus produce complete paralysis of the motor area of the opposite side

years before with speech so imperfect as to be understood with the greatest difficulty, and for whom at that time I inserted an artificial palate Accompanying the letter was a program of the graduating exercises of the High School of Manistee, Michigan, in which he was down for the "Salutatory," having been given the highest honor of his class not only, but a position which could not be properly filled by a person with indistinct or imperfect utterance of the English language The following is a part of his letter - "I have sent you under separate cover an announcement of the graduating exercises of the class of '94, of which I am a member, thinking you would like to see the part you have played in the exercises For I owe it to you that I am to take part" He has since written me from the University of Michigan, where he is taking the classical course with high anticipations of the future because, as he says, his friends now tell him that he speaks with perfect articulation

This is only one of many similar instances in my practice and the practice of other specialists, showing the perfect success of artificial palates that have been inserted after the age of 15

For the purpose of bringing before you unquestionable evidence of the value of the artificial method of treatment in congenital cleft palate, I have selected from my *clientele* two patients who are with us this evening, whose experience as regards time in wearing an artificial palate is widely different The one gentleman, now 30 years of age, began about 15 years ago, while the other, a young man 19 years of age, will be remembered as coming before this society a year and a half ago, two weeks after the insertion of his first artificial palate At that time he was presented by me merely to show the improvement principally in the quality of his tone, and in certain enunciations that were previously impossible When you hear these gentlemen speak, as they have kindly consented to, after the reading of my paper, you will be convinced, I think, that were you to meet either one in private conversation—where the opportunity of using a lower tone than is possible in this hall would be greatly to their advantage—that nothing in the character of their speech would suggest the deformity under which they labor

The treatment for congenital cleft palate of whatever character, is usually the crowning event of a patient's whole life, for upon its success in enabling him to speak distinctly depends his future It is often the one event for which they have been saving and looking forward to for years, and what is of a far more serious nature in throwing the responsibility of a being's future upon the operator who attempts the correction, it is usually the only operation they will undergo, whatever its final result By this I do not mean they will not allow the operator to perfect or improve his first operation, but that after they have first investigated the subject of treatment, choosing the method which seems to promise the greatest benefit, and the operator upon whose skill so much depends, they usually will forever abide by the consequences In some instances their means will not permit a second outlay of money, to say nothing of other things, for a second or different operation, the success of which they have much reason to doubt In other instances, if the operation is a surgical one, which is successful only as to the perfect union of the fissure without material improvement in speech, or with an improvement which is not equal to that which certainly could have been obtained by a skillfully adjusted artificial palate, the latter operation is rendered impossible, unless the cleft is disunited for the proper insertion of the artificial velum, an undertaking that will rarely be submitted to, even if it were possible for results equal to those which might have been obtained in this way at first

Of the hundreds that are yearly added in private and hospital practice to the list of patients having a partial or complete disunion of a once surgically united cleft palate, few ever apply for a second operation of any kind for various reasons It is doubtful if many of these patients could acquire the ability to successfully use an artificial palate with the muscles of the natural velum and uvula stiffened and contracted by the cicatricial tissue of the operation when so much depends upon the mobility and sensitive activity of the natural muscles in acquiring the power to properly use an artificial velum as an adjunct of speech, just the same as the muscles of the hand acquire the ability to use an instrument of any kind in the accomplishment of an object which could not be attained without that particular instrument skillfully fashioned for the purpose and made to do the bidding of muscle and brain in the production of beautiful music or the restoration of a decayed tooth If the muscles have lost the possibilities of their natural cunning, either by disease or by a surgical operation, the most perfect brain and instrument are powerless to accomplish more than indifferent success

When patients have come to me from time to time with a surgically united cleft, realizing the inadequacy of their operation and with the hope of improvement by artificial means, it has been my custom to tell them that nothing could be done without first opening the suture, at least through the soft palate, and then with no promise of success beyond the probability of an improvement in their speech

I have one patient who is at present the Auditor of the Toledo & Ann Arbor R'y, who underwent surgical treatment for congenital cleft palate when quite a boy at the hands of those eminent surgeons, Drs Agnew and Garretson I found the soft palate perfectly united, but anterior to this in the hard palate there was an ovoid fissure about the width of a cent This was covered by a plate with a flexible extension made by Dr Patterson, of Kansas City When I first met this patient, about six years ago at Jackson, Mich, he was very skeptical as to the benefits of any mode of treatment He was accompanied by his sister who had brought her daughter, who was suffering from the same deformity, for consultation, or rather for investigation of my method of treatment When I heard his strongly expressed doubts as to my ability to render a service that would enable his niece to speak perfectly, I privately sent for one of my cleft palate patients, whom I introduced to them with no explanation After quite an animated conversation, in which my patient did most of the talking, I told them that the young man was wearing one of my palates At this they were greatly surprised and could hardly believe it until they had examined the palate and saw the cleft which was very large and apparently quite difficult to treat It is needless to say that this decided the operation for his niece which proved so successful that later—about three years ago—he insisted upon my making the attempt

their power of speech was fully in accord with his claims

"One young man gave a remarkable exhibition of his ability to whistle, which was a surprise to all who knew the impossibility of performing this function with a cleft of the palate, unaided by surgical or artificial means "

A H PECK, Secretary Chicago Dental Society

SLEEP THE RESULT OF DIFFERENTIATION

BY GUIDO BELL, M D

INDIANAPOLIS, IND

SYLLABUS

There are no atypical cells in the *organisms for this reason and* others there must be something guiding all biologic processes—species in action is identical with vitality

The fundamental functions are assimilation and proliferation differentiation is the tendency of bringing assimilation and proliferation in contact with the outer world under most favorable conditions

These influences are either food and air or disengaged (cosmic) energy Food is preëminently chemic change and is carried on a neutral road through the body cosmic influences are carried in an electrical form also on neutral roads Blood and nerves are neutral in consequence of their metaplastic nature as hair and nails are

All biologic phenomena are subject to the law of conservation of energy but controlled by species

Trypsinogen and inogen are transformed by a specific irritation into trypsin, or mechanical force respectively Similar to this, we have to assume a product in the cerebral cell which, on irritation, becomes an "imprint" consuming oxygen The nerve cell puts itself asleep

It is proper and correct that "experimental science ought to vigorously forbid itself all research relative to first causes " But excluding such a research as not pertaining to experimental science we have taken our aim too short in physiology

Within the last fifty years, since medical sciences have been conceived from the standpoint of induction and taught so in regular schools, it became evident that medical practice did not make equal progress as science did, and that American medical practitioners with less schooling can well compete with their European colleagues

The cause of this seems to rest in the fact that the young practitioner can not translate easily the language of science into that of practical life It is difficult for him to get the essentials of a phenomenon by abstraction and to compare them with his doctrine He learns using terms without a clear conception, he speaks of constitution, temperament, vitality and so on and refers to them in his judgment and action

It seems to be just and commendable to draw forth these terms from indistinctness, and to lay down the "known" and the "knowable" but not yet known

My endeavor is to plead in this article on sleep for the term, vitality I choose an object to be concise and clear, and I select sleep because she, a natural healer, offers the best opportunity of viewing nature's workshop

I define vitality as the metaphysical principle *active in the development of the individual and in* procreation Both changes and disorders, inherited and acquired in life, must be included in a given case Vitality is identical with species or type I will try to show that the law of conservation of energy can not be understood in biology if not placed under the control of species Only such forms of energy are disengaged in the cell, and so much of each as are in accord with its design

Sleep is a normal condition of the human body, it is periodical rest with a higher or less degree of unconsciousness due to inactivity of the nervous system Not only the avenues by which we receive impressions are closed, but also the mechanism through which our various relations with the outer world are maintained and regulated, is cut off

But not all organs sleep, some find other means to be equal to their duties This variation is explained by the laws of differentiation

All biologic functions must be studied in the simplest forms of life—the cells The cell consists of a cell wall, plasm and a nucleus But some living matter has been observed without a cell wall and even a nucleus can be missing Thus in the simplest living being there is nothing but protoplasm, a network holding together a gelatin or fluid, and consisting of carbon, oxygen, hydrogen and nitrogen

But life is not mere chemic change, it is rather chemic change in the services of the metaphysical principle of species which in juxtaposition develops the individual and in postposition creates the offspring (Juxtaposition and postposition are inadequate terms, because the individual is not made, but procreated and developed)

We must accept the metaphysical control for the following reasons

1 Every cell and every organ in the human body is strictly typical in normal and pathologic condition, if forms are made under control, the forces producing them must first be controlled Only such forms of energy are disengaged and so much of each as are in accord with the design

2 There is a correlation between all functions under a central power

3 Only certain substances are absorbed, matter absorbed either benefits or injures the cell, but to a certain degree of irritation the cell retains its integrity

4 Intellectual and moral qualities of man can not be brought under the law of conservation of energy without acknowledging a metaphysical principle in close contact with matter and energy *Cogito ergo sum* is the deduction of the general axiom, *species, ergo vivens* Species creates the individual *in abstracto* and makes it the subject towards objects

5 We perceive objects not as they are but as they affect our senses, but we get a correct perception over imperfect and faulty apparatus

6 Only an organism can be sick and may recover health by maintaining the typical form, although chemically changed

7 Transmission of changes and disorders from parents to offspring means only that species may suffer as well in postposition as in juxtaposition

8 In nerves and muscles of a dead body, there is no disengagement of electricity and of mechanical force, but an unrestrained chemic dissolution takes place

Both intellectual and animal life are manifestations of the same metaphysical principle Type or *species leads every disengagement of energy in* organic action But before we consider energy in its relation to matter and especially in its modifications in an organism we must call attention to a misunderstanding commonly met with, that forces act directly at a distance and that energy makes a round from masses to masses

If it is true that where there is one substance there no other can be and that matter and energy can not be separated, then we may not use expressions as "free or communicated energy ," energy being inherent to matter can be active and disengaged only. Light is communicated neither to the eye nor to the rock, but disengages energy although differently in the eye and in the rock Furthermore it must be emphatically said, that disengaged energy is not the real cause of a phenomenon, but that cause is within a thing and only the inciting cause is from without, but disengaging and disengaged energies combined constitute the phenomenon Simple as these assertions may seem to be, they are essential in our conceptions and their disavowal has led to grave mistakes

Energy in inanimate masses is disengaged with or without transformation or it is latent In living organisms we observe the same conditions of disengagement but subject to the biologic laws of maintaining and of developing the type In most cases disengagement goes on with a partial transformation that means the disengaging energy with that to be disengaged appearing in partly new forms Warmth affecting wood disengages warmth and, partly, chemic change and light But if transformation becomes the prominent feature, as in ignited gunpowder, we call disengaged energy adequate The spark is the adequate energy of burning coal and sulphur and of decomposing saltpetre, warmth disengages chemic change As a result of this chemic change, we receive substances whose energy is partly used in changing the aggregation of their molecules into gases Gases disengage mechanical force by expansion Expansion is mechanical force and is inadequate to the bullet, disengaging its energy without transformation

But we have to assume a third condition of energy A spark without gunpowder does not move the bullet, it disengages some warmth in the bullet but does not change its form or place But as soon as warmth has accumulated to a certain degree, a part of it disappears, changing the aggregation of the molecules only to reappear in its original form when temperature goes below the known limits This warmth on which aggregation depends has always been called latent, but in a wider sense all energy is in a state of latency if persistent and not disengaging This must be said of chemic change forming physical bodies, there is a relative rest from which unrest of other energies may be judged We speak of adequate, inadequate and latent energy only relatively to their prominence

Comparing the same conditions in living organisms, I must confine myself to a few examples Much moisture and warmth are required to disengage chemic change in a seed, but once started a metabolic grouping will continue in all substances absorbed by the cell Light disengages electricity in the eye, light is the adequate energy for the substance in the optic nerve, as sound is for the ear, but neither is light to the ear nor sound to the eye adequate, although both are connected with nerves But meanwhile a spark may ignite any quantity of gunpowder, and the disengagements in eye or ear are corresponding to intensity and quality of the irritation To dead organs the same irritations are not adequate any more

We find, also, inadequate energy active in the organism for absorbed food or poison Assimilation in its various forms is preeminently such a disengagement, although a mere chemic changing, how manifold are the processes and products! A billiard ball rolls with the very force and in the very direction imparted, two substances put in a vial will surely form the body [illegible] chemic combinations has been discovered by chemists and all consisting of but a few elements? Every organ furnishes its specific products, mostly beneficial but sometimes injurious if not changed anew or eliminated This grand display has caused a wonder at all times, and the fact that substances are produced not found in the physical world has led to the belief in a supervising force of chemic change as the real cause of life But exposing this fallacy, our authorities restricted themselves to forms and phenomena, excluding all researches relative to essentials of life

The third state of energy, that of latency, appears in organisms frequently so modified that instead of latency we better speak of energy at disposition We observe in gland cells, for instance in the pancreas, during the state of repose, granules accumulated which we may claim for some reasons not to be protoplasm, but the substance ready for a moment's call of an irritating nerve to be transformed into the specific product of the gland Corresponding substances in muscles and nerves form the hypothetical stratum for an explanation of their activity Such substances represent energy at disposition

Of the cosmic influences, or disengaged energies, our senses receive a few, but with a remarkable sensitiveness as to intensity and quality Others, as electricity, we do not perceive, we feel heat and shock and notice light into which electricity has been converted, but not electricity itself And light, the source of all life, is not disengaged at all in the human body as long as there is life within This great restriction in disengaging energy we notice in every living cell in various ways, protects life within certain limits and is the cause on one side of restoration after exhaustion and on the other of recovery after sickness But all restriction ceases when life is extinguished and unrestrained physical laws prevail

If we are inclined to accept a monistic conception of nature, in that sense that intellectual and animal life have the same origin, I feel satisfied to have shown by this discussion that species is really the principle of life But to prove it by demonstration, I will proceed to the part of this essay dwelling on sleep

The simplest living matter consists of protoplasm and an enlivening principle whose lower border line projecting in individuals is reflected in the organs of our senses

Living matter assimilates, it absorbs substance, merges the material into other chemic groups similar to its own, and eliminates substances not useful to its design, living matter also proliferates, that means it separates and divides masses accumulated by assimilation in new forms like its own with a certain degree of independence

Groups of cells develop to distinct forms and organs of a specific function as nerves, glands, bones, muscles and so on and these specific functions may become so prominent that assimilation seems to be rather an auxiliary action and that proliferation ceases entirely in certain tissues as in hairs, nails, blood A mother tissue is necessary for the new formation of such tissue This process is called metaplasia and is one of the results of differentiation

Differentiation of tissue as well as of organs causes their independence to yield to a central power with the result of a more distinct individuality of the organism as a whole But dependence of tissue and organs, and the more marked individuality of the whole organism make a shifting from variety to a new species difficult and impossible Virchow says "Darwinism has no room in pathologic anatomy of man"

Assimilation and proliferation are really the prerogatives in living matters towards inanimate masses as crystals They are the fundamental functions of life in the simplest forms as well as in the most complicated organisms, they are active in all organs of different and various specific functions which may explain the correlation of these functions and also the dependence of each from the whole These various and different functions are specific and the result of differentiation as perception, motion, respiration, digestion, circulation and secretion

All these specific functions have in common the tendency to bring assimilation and proliferation in contact with the outer world, under most favorable conditions, and the means of accomplishing this are the organs

The external influences are either substance in form of food, drink or air (latent energy in a general sense) or disengaged energy in its origin either directly or indirectly cosmic Latent energy or food, drink or air entering the body begins a chemic change and means a plus to the household which interchanging gradually diminishes

There are connective, muscular, glandular and nerve tissues in the human body and each with various metaplastics, and besides this a procreative tissue in the sexual organs These five mother tissues maintain their character even in metaplastics, but nourishing will be different in mother tissue and metaplastics Another difference will arise from the specific functions The glandular cell produces, for instance, trypsinogen, glycogen and so on, the muscular fiber, inogen, both to be disengaged with or without transformation For muscular tissue it may be an explosion or a process similar to bulging, dividing and separating in proliferation But for nerves the primordial substance must be produced by their respective cells or mother tissue which on irritation appears instantaneously in an electric nature For this reason we assume molecules constituting nerve substance to be homogeneous and their electricity to be latent, as warmth is latent in fluids and gases Therefore their energy is excitable in an instant Certainly there is not an electric current in nerves Nerves have lost their individuality as hair, nails and blood have, but their neutrality enables them to be carriers of irritation

The next conclusion will be that neither nerves nor blood have scientifically the prominence in the household of man that is asserted in our text books The latter distributes food or latent energy, and the former cosmic irritation or active energy, both maintain a neutrality but of the greatest importance The fundamental functions of life rest in the mother tissues The weakness of both the humoral and neuropathology is manifest Blood and nerves are the routes our therapeutics take, but our attacks must be directed to assimilating and proliferating tissue

Of the forms of disengaged energy from without, some are received by our senses and are answered by a reaction of electrical polarization Soon the whole nerve is placed in a state of electric irritation, a "nerve-current" is formed and this irritation is carried to the central organ and from there on other roads back through the whole system especially to muscles, glands and so on

As we observe in simple organisms, as in hydra, an endoderm absorbing food and an exoderm receiving irritating energy, so we have two systems for the same purpose in higher differentiated organisms

But organs receiving disengaged energy become exhausted periodically, according to the law of conservation of energy, require rest and are restored by rest This is the standpoint we have to assume in judging exhaustion leading to sleep

Herbs and animals fit themselves to the surroundings and protect themselves in order of self-sustenance and development This tendency is also expressed by differentiation

Individuation begins with formation of organs, for protection of which in the development of man the greater part is cast off I mean the fetal membranes But the remaining part, the skin, serves as a coat of mail and an exit for excretions, and at the same time gives space to peripheral receivers of the organs of perception remotely located But no other, unless disengaged energy, and only one form and a certain form, finds an entrance at each receiving place, thus light is referred to the eyes, mechanical force to ears and fingers, chemic change to nose and tongue, meanwhile millions of sentinels are dispersed all over the surface, the filaments of cutaneous nerves For warmth we have no special sense and not for electricity What a contrast the human skin presents! Impermeable to all substances and influences as long as it is unhurt, the skin is the bearer of apparatus sensible to all grades of quality and intensity of energy from near and far

Energy of the sun excites electric vibrations of the ether, which, entering the atmosphere, are transformed into light and reach us either directly or reflecting from the surrounding world as color, sound, motion, warmth and so on These relations to the outer world are the cause of the variation of the body, of its gain intellectually, and of its loss bodily and certainly of our intellectual and moral life

But on the other side we observe that the functions of the kidneys are more important to health than those of our eyes, and the activity of the stomach and liver more necessary to life than the senses of smell and taste Indeed we may miss these organs without being aware of the want

Assimilation and proliferation are good housekeepers, caring less for earning than for managing the earnings But in earning, expenses are made

The internal organs, those as well of perception and motion as all specifically active in assimilation in the wide sense, are not simultaneously or equally developed, neither do they reach an equal perfection. Some organs belong to fetal life only, others to a late period in life, the most constant organ is the heart, the first and last in action

The law of conservation of energy teaches us that we perceive but variations of things and that all phenomena are the result of various forms of the same energy Only gravitation will not submit to this law, but according to Helmholtz, gravitation or universal pressure is the source of all energies to be considered both in physics and biology

The quantity of heat necessary to raise the temperature of a kilogramme of water one centigrade is called a unit of heat Any kind of mechanical work, compression, percussion or friction of bodies produces heat, the mechanical work necessary to produce a unit of heat is the mechanical equivalent of heat The amount of electricity necessary to produce a unit of heat would be the electrical equivalent of heat

The mechanical equivalent of heat is known by experiments to be 424, that is a power which would raise a kilogramme of water 424 meters or 424 kilogrammes of water one meter will also raise the temperature of a kilogramme of water one centigrade

But equivalents are less important for our purpose, because we can not yet consider phenomena of life from a mathematical aspect If we only know that no energy is lost but that it disappears entirely in one form before it reappears in another, and that the substance after a disengagement is not fit for a disengagement in the same form, then we are enabled to explain how a controlling power may prevent overheating, combustion and decomposition and inducing absorption, how it may lead molecules into certain homogeneous chemic groups, and how these processes influenced from without and repeated a thousand fold in every instant may be carried on here and there in various ways, but uniform and conforming to the whole

Blood is a metaplastic tissue, we did not observe so far a proliferation of blood cells The red corpuscles have neither a membrane nor nucleus and being solid are no cells, their new formation requires a mother tissue Therefore we can not speak of blood diseases Blood is a neutral fluid, it may be contaminated as a stream is polluted by surroundings, but it does not contaminate itself This peculiarity qualifies blood so well as a carrier of food The chemic interchange is diminished to a minimum on account of its metaplastic nature, oxygen is absorbed by the red corpuscles as charcoal absorbs gases and is carried to all organs and especially to the brain where it is mostly needed, opium and other poisons are transported over this route to distinct cells of the brain where a chemic change may take place with the result of paralysis, the product of the thyroid gland takes the same means of transportation to the brain At least we can not find any other cause for the degeneration of the brain where the organism is deprived of this gland Perhaps prohibition of chemic interchange may explain also the germicidal power of blood serum

Blood heat, although remarkable for its stability and warmth of the whole body seems to be overrated in its importance to the economy Fever heat indicates only that chemic change is disturbed Danger arises from this disturbance exclusively

Chemic interchanging begins in the tissue proper and assumes such complicated and variable appearances that only a few facts can be ascertained Of food ingested, air, water and solubles enter the organism in a purely osmotic way, but not without an exchange The exchanged substances loosen chemic groups in the food, without thus rendering them resorbable at stations beyond, this may be repeated, leaving finally waste matter only

Substances absorbed begin an endless series of metabolic changes We must assume that these chemic changes are as strictly controlled as production of heat is or any other transformation Assimilation is mainly chemic change of accumulated masses which slowly decrease to end with elimination of wastings through kidneys, skin and lungs But we must keep in mind that all processes take place in cells and that their inciting cause, be it from a neighboring cell or a microbe or poison is controlled by physical laws only, biologic control belongs to reaction in the cell exclusively Every cell acts as a relative individual, prospers and suffers or remains indifferent to irritations of neighbors But to remain indifferent means in biology to be protected, protection is within certain limits towards normal and pathologic irritation At times the constitution of the plasm is weakened, some chemic groups can be loosened easier, or certain substances in the blood have a peculiar influence on distinct groups For this reason they are termed poisons or medicines, then the reaction in the plasm becomes abnormal and the inciting cause with the reaction in the cell results in a condition which we call sickness or disease

In general, we construct the law of conservation of energy as follows In nearly every disengagement there is transformation present, disengaging energy of higher intensity disengages so much more energy of another form, and in the contrary absorbs so much that the functions of the quantities before and after the disengagement are not altered, both energies before the disengagement are equal to the energy afterward in the new form Practically we say, what is loss to one organ is gain to another We can at least understand that there is not so much loss of substance on account of assimilation, but that metaplastic tissue being practically eliminated from the economy, and although of greater stability increases consumption and wasting in the mother tissue

It becomes now our duty to demonstrate consumption and wasting in the nervous system As blood is the carrier of food to assimilating and proliferating tissues, especially qualified by its metaplastic nature and a neutral distributor of food to all organs, so cosmic influences affecting our senses as color, sound, motion, pressure and so on, are transferred by carriers equally neutral, the nerves We assume a metaplastic origin for the nerves, too, because they grow from the nerve center and are new formed from there And as blood is transported to a central station to be distributed from there to all districts, so all irritation by disengaged energy from without is sent through sensory nerves to the brain, to be followed by orders to muscles, glands and so on

There are vital railways and telegraphs in the organism But there is still another conformity, in the receiving stations Teeth, saliva, gastric juice and others act upon food and adapt it for absorption, but the apparatus of our senses does the same with irritation of cosmic influences Light does not affect directly the optic nerve, nor does sound irritate the nerve of hearing, and certainly the nerves of smell and taste may not be incited unless a receiving apparatus has selected carefully the form and quality of disengaged energy and has adapted it to the respective nerve How would it be possible that nose and tongue can discriminate, when chemist and microscopist have already reached the limits of their skill! How light, sound and odors are delivered to sensory nerves we do not know The veil is partly raised from the finer structures of retina and labyrinth, but we do not understand the wonderful pictures

Is visual purple analogous to gastric juice in transforming light into electric irritability? We know the nerve to be a good carrier of irritation on account of its metaplastic nature, but we only presume the form of its disengaged energy to be of the electrical kind, a polarization, termed "nerve current" but not an electric current I have to repeat yet with emphasis, that blood and nerve have a great stability of their own and that they can not become sick, their normal and abnormal conditions depend entirely upon their respective mother tissue and the surroundings, just as hair and nails do not contract a malady but suffer with the disordered mother tissue

Nerve irritation is conveyed to the nerve cell to reappear there in a new transformation But we have to attribute two metaplastic processes to the nerve cell, one as we have seen in the formation of nerve substance and the other in the production of little corpuscles similar to trypsinogen and glycogen which, on nerve irritation, appear as the specific products of the cerebral cells Their existence is not yet proved by direct observation, but is highly probable according to conclusion by analogy Every irritation must leave a permanent impression on the products of the cerebral cells, these imprints affecting mind are repeatedly tested, selected, arranged and preserved Whether the same nerve cell produces nerve substances and these corpuscles, and how the processes in cells and filaments are carried on we do not know

But we may understand somewhat of the magnitude and diversity of their work when we are informed that the brain contains 600,000,000 of nerve cells and twice and thrice as many filaments connecting them, and if we join anatomy with physiologic activity we take into consideration that many irritations are required for the conception of light, and many more to get the idea of green, of shape, of leaf, *of growth and of life, and that the* endless series of irritations must be tested, selected, arranged and preserved These imprints must be regarded as eliminated from the economy becase they are metaplastics We are aware now of the great *consumption and loss* resulting from their production Exhaustion is the natural consequence, but nerve cells do not differ in this from other mother tissue The difference rests in their restoration only

Nerve irritation is adequate energy to the corpuscles produced by the cell, but not to the plasm maintaining the same Repeated irritation and over exertion produce hyperemia and swelling connective tissue, but no impressions in the exhausted cell Its specific activity ceases

The exhausted cell is not specifically active, as the nail does not grow in case of fracture of the limb because the connective tissue (in a general sense) is engaged in producing a callus But there are other factors checking activity of the brain cell, also, as impaired constitution of the plasm, interruption of nerve irritation, poison, shock, hypnosis The cell in normal condition may be exhausted, but its integrity is not impaired If there are different influences having the same effect, there must be another cause of sleep which is common to all and different from each Sleeplessness during nervous excitement, and in neurasthenics, dreams and so on, indicate that periodical exhaustion does not more than induce sleep

Many animals go well fed into a winter sleep Certain fishes and amphibia sleep in a similar way during the dry season Dr Fred Cook, of the Peary expedition, reports that Eskimos are in a semi-comatose condition during the night of several months, that menstruation ceases, that all births are counted from the time of the reappearing sun and that nevertheless they sleep every twelve hours although not exhausted The temperature of their blood is half a degree higher than ours And then we know that quietness, darkness and coolness have much to do with sound sleep All these facts convince us that exhaustion in the cell induces sleep, but that the cell, self-ruling, demands sleep and it puts itself asleep Sleep is really to be compared with other resources of nature maintaining welfare and life, as hypertrophy, vicarious functions of skin, lungs and kidneys, the changing fur in winter and so on Muscles hypertrophy in official duty and their action is *en masse*, but nerve cells, active individuals, find relief only in periodical rest

Pflueger maintained the theory that brain cells are very sensitive to want of oxygen and that this want is the cause of sleep This theoretical conception is in contradiction with many facts, and it will be necessary to go into details to reach a proper understanding The plasm of cerebral cells is probably not more sensitive to a want of oxygen than in other cells, but this want seems to be felt mostly at the disengagement in their products forming "imprints "

The condition of the blood has much to do with our mental activity and, on the other side, hard brainwork influences the quality of the blood

Full blooded youth is intellectually fresher and needs more sleep than the dry stupid senile He who sleeps dines Methodical reasoning is less tiresome, clear thinkers as Lessing, do not dream, all such assertions connect with the idea that supply and consumption of blood are in a causative relation to our capability of perceiving and reasoning But if our thinking should depend on the supply of oxygen exclusively, then the full blooded would be our philosphers and the pale and lean would pass in sleeping *the time for action In fact, Pflueger asserts only*, that sound and plentiful blood and especially its oxygen nourishes the cerebral cells But if we say, these cells feel a want of oxygen not in their sustenance but in their specific action, then all contradictions mentioned above are dissolved and this theory is placed in the right light excepting in one point We have to place the cause of all vital phenomena in the cells, specifically active

For this reason we adopt the following explanation of sleep nerve irritation is followed by reaction in the cell with the result of granules, already separated, being transformed into the specific products, oxygen of the blood is required for this transformation and enters into this chemic change Nerve irritation fixes the amount of oxygen and partly the quality of grouping If the plasm be exhausted or the impressions too weak, then the product will be deficient and the imprints are either indistinct, unfit, or they are missing A correct perception requires a well fed cell, a vigorous irritation and oxygen at disposition

Besides removing some absurdities of the storing up theory, our conception explains the objectivity that is in every perception The impression of light is reaction of the cell and is subjective, but the perception of blue is an alteration due to the exciting *cause and is objective We comprehend also the*

summer of 1871 Although the number of cases of yellow fever which occurred in the summer and fall of 1871 was small, yet the disease appeared to be of a violent and fatal nature, thus up to October 6, out of thirty-seven cases, which occurred during the preceding sixty-nine days, sixteen terminated fatally, thus giving a mortality of 43 2 per cent , and the active and fatal character of the disease was still further manifest in its comparatively short duration, thus of these sixteen fatal cases, one terminated on the third day, one on the fourth, two on the fifth, five on the sixth, four on the seventh, one on the eighth, one on the ninth, and one on the sixteenth day

According to the official reports of the Board of Health, 114 well marked cases of yellow fever occurred from the date of the first case, July 30, to that of the last, December 18, and of this number fifty-five terminated fatally, that is the mortality reached the extraordinary figure of one death in 2 07 cases, or 48 24 per cent

In the case now under consideration, (Geo C Collingberg) the blood from the cavities of the heart, as well as the black vomit, and the structures of the heart, liver and kidneys were subjected to careful microscopic examination, a few hours after death The blood from the heart presented the characteristic golden colored areola, when dropped upon bibulous paper, and under the microscope the colored blood corpuscles presented a crenated and stellate appearance No animalculæ or sporules, or vegetable organisms were observed, even under the highest powers of the microscope Numerous vibrios were observed in the black vomit taken from the stomach after death The muscular structures of the heart presented a pale, yellowish-brown, flabby appearance and contained much free oil in the form of globules The liver presented the characteristic yellow color, and contained much oil, deposited in the form of oil globules in and around the secretory cells of this organ The kidneys presented a yellowish-brown color, and the excretory tubes were filled with yellow granular matter I injected, by means of a syringe, (the nozzle of which was plunged through the skin) into the cellular tissue of an active dog both black vomit from the stomach and fluid blood from the cavities of the heart, and also applied the black vomit to the mucous membrane of the eyes The animal also swallowed a portion of black vomit and blood, after fasting No ill effects were observed and the animal remained apparently well and active

In the case of Newton Simpson, who was attacked on Oct 11, 1871, and died with urinary suppression and profuse black vomit, on the ninth day of the disease, the textures of the body, divided by the knife, presented the bloody appearance usual in such cases of yellow fever, urea was detected in the blood, brain and liver The heart contained in all its cavities dark fluid blood, which gave an acid reaction at the time of the post-mortem examination, ten hours after death Under the microscope, many of the blood corpuscles presented a crenated, wrinkled appearance, others were swollen, while others again presented the usual appearance

I could after careful examination, with high powers, detach no animalculæ, or simple vegetable or animal forms, although the search was conducted with great care, with powers of various degrees, from one-fourth to one-eighteenth of an inch objectives, and the highest oculars The blood was fluid, with little or no fibrin, and no fibrinous clots, the fibrin was in so small an amount, and in such a soft and unstable condition that it was impossible to determine the quantity. Specific gravity of blood 1046

1,000 parts of blood from the cavities of the heart contained

Water	852 70
Solid residue	147 30
Fibrin	Traces
Saline constituents	9 80

From experiments which I have conducted, it appears that the specific gravity of the blood in the cavities of the heart after death from yellow fever is less than that contained in the large blood vessels This appears to be due to the fact that the heart continues to circulate the blood, or to force it through its cavities during the last moments of life, the red blood corpuscles are arrested in the capillaries, and only the more tenacious constituents of the blood are returned to its cavities during the last moments of life In this case, the spleen was somewhat enlarged and softened, and its "pulp" consisted of numerous colored corpuscles, oil globules and granular masses, but no living animalculæ or vegetable forms were observed Blood corpuscles of spleen not specially altered in appearance Oil globules abundant in spleen

The reaction of the blood from the liver was acid, and at the end of twenty-four hours numerous prismatic crystals, of the triple phosphate of lime, magnesia and ammonia formed in the fluid oozing from the cut surface of the liver The blood of the liver contained numerous oil globules, but no specific animalculæ or vegetable organisms

The results of the microscopic examinations of the structures of the heart, liver and kidneys were similar to those detailed in the report of the case of John Allen

In the case of Jacob Siegarist, age 26, native of Germany, who was attacked Oct 12, 1871, and who suffered with well marked yellow fever, characterized by suppression of urine and alkalin black vomit, and who died on the seventeenth day of the disease, urea and bile were found in the blood and in all the organs, brain, liver, spleen and heart At the necropsy, performed three hours after death, both cavities of the heart contained warm fluid blood, which gave a slight acid reaction to litmus blue paper and upon standing coagulated, forming a soft gelatinous clot which possessed no contractile power The aorta, vena cava and pulmonary veins in like manner contained warm fluid blood, which coagulated imperfectly upon standing

(*To be continued*)

APPENDICITIS

DEDUCTIONS FROM TWO HUNDRED AND SEVEN CASES OPERATED ON, WITH TABULATED REPORT

Read before the Chicago Pathological Society, Dec 10, 1894

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(*Continued from page 437*)

I will endeavor to give a short outline of the various conditions found in operating for appendicitis

Where the abdominal wall is infiltrated, and the
ss is opened without opening the unaffected
on of the peritoneum, there may be a, a small
umscribed abscess with the appendix forming part
e wall, *b*, a small abscess with a tract leading to
ger abscess deeper, *c*, a large abscess filling the
fossa, containing fecal concretions, or a gangre
appendix floating in pus, all closed in with firm
esions (This condition never exists in the early
e, and in this class of cases the adhesions pro
ng the peritoneum should not be broken to
ove the appendix), *d*, there may be multiple ab
ses with no connecting sinuses This is a com
tively rare condition In one of my cases, a sec
abscess was not opened and the patient died of
mia four weeks later, *e*, there may be an abscess
he opposite side of the abdomen, it usually ap
rs in the same relative position to the left anterior
erior spinous process as the abscess does to the
ht There is no connecting sinus It never occurs
early cases, and is more commonly found a week
er operation and three or four weeks after the
set of attack, and should be opened and drained

2 In another class of cases, where the peritoneum
opened and no adhesions to the anterior abdomi
l wall found, a circumscribed abscess may be
und situated on the posterior wall of the abdomen
er the promontory of sacrum and the appendix and
s surrounded and walled in by adherent omentum
d intestine This is the most common condition
und in the early stage The location of the abscess
ay be near the median line near the margin of the
elvis, close to the crest of the ileum, over the kidney,
osterior to the cecum, or on the margin of the liver,
s in two cases The occurrence of a suppurating ap
endix on the surface of the liver or adherent to its
n is due to the congenital deformity and mal
n of the cecum, so perfectly described by
nan, and the distension of the colon with gas
not aid in making a differential diagnosis be
appendicitis and cholecystitis Still the most
ent location for the appendix is in the neigh
ood of the McBurney point The exact position
e appendix can be found by following the white
s bands along the convex surface of the cecum
e base of the appendix In all of these cases
ield of operation should be thoroughly protected
arefully packing with strands of iodoform gauze,
ning the ends outside The adhesions are sepa
l, the pus sponged out and the appendix libe-
l from its adhesions, a ligature is then placed
he appendix, and one on its mesentery In all
cases where the peritoneal cavity is opened di-
ly, the appendix should be removed Where the
endix is situated above and behind the cecum,
close proximity to the liver, the induration can
detected behind the cecum, and must be reached
pressing the cecum forward, packing around and
ning the abscess, locating the appendix and re-
ving it

3 Where the abscess is circumscribed in the pelvis,
d the appendix is found hanging over the brim or
ached to the uterus, tubes or ovaries, the appendix
located by following the bands on the cecum, pus
onged out, appendix amputated and a long glass
ain inserted

4 In another class of cases the peritoneal cavity
ill be found to contain a large quantity of free pus
ith no limiting adhesions, the bowel may be smooth and glossy, not in the least congested or eroded of its endothelium All of these cases recover On the other hand, the bowel may have a livid blistered appearance, entirely excoriated of its endothelium, and very much distended showing a paralysis of its muscular wall The great majority of these cases die In either of the above cases, the appendix may be adherent or free, it is usually perforated and gangrenous In both, the appendix is located by the fibrous bands on the cecum or by the sensation to the touch by its swollen, hard and enlarged condition It must not be confounded with the indurated omentum Extensive drainage both of glass and gauze should be employed and no irrigation

5 We find a class of cases when there is a small quantity of pus located around the appendix with partial adhesions protecting the peritoneum and with flakes of lymph extending some distance This condition may be caused by a perforation of the appendix, by a gangrene of the mucous membrane, local or general, without perforation, by a simple ulcer of appendix without perforation, by accumulation and retention of muco purulent material in the appendix with only an abrasion of the mucous membrane of that organ

6 Specific ulcers in the appendix without perforation or infection of peritoneum, as tubercular, of which we had one case with recovery, and typhoid, three cases all recovered Both of the latter conditions produce all of the acute symptoms, pain, vomiting, tympanites and elevation of temperature But with the typhoid, prodromal symptoms and marked elevation of temperature exist before the pain, nausea and vomiting In these cases when the appendix is located at the time of operation it will be found very much enlarged at seat of ulceration, with the distal end distended with accumulations

7 A class of cases when the canal of the appendix is partially or completely obliterated, or a stenosis of the canal is produced sufficient to cause retention of material in distal end, causing recurrent attacks In one of the cases of this kind there was a fecal stone entirely surrounded by connective tissue, the mucous membrane having been completely destroyed and the canal obliterated in a previous attack, there were no adhesions around the appendix In many other cases portions of the canal were found obliterated and in others a stenosis or narrowing of the canal, the latter is the most annoying variety, as there are frequent recurrences of attacks, and the patient is rarely ever free from pain or sensitiveness in that region As far as I can learn from the literature, the credit belongs to Dr Henry O Marcy, of Boston, for being the first to perform the operation of appendicectomy in the intermediate stage for the relief of this class of cases The operation was on Dr Samuel B Nelson, Nov 9, 1886, and the report was published in the Boston *Medical and Surgical Journal* at that time The patient recovered and left the hospital in eighteen days

8 Appendicitis stercoralis In this class of cases there is a large accumulation of feces surrounded by mucus or muco-purulent secretion The attacks of pain are severe and recur frequently They are usually accompanied by a temperature not exceeding 100 or 100 5 degrees, and vomiting is a very pronounced symptom The attack resembles one of intestinal retention, as frequently a movement of the bowels can not be produced for four or five days The cause of the symptoms of intestinal obstruction has not been

Number of case	Date of operation	Name of patient	Operator	Male	Female	Number of attacks before operation	Age of patient	Ulcerative appendicitis	Gangrene of appendix	Perforation of appendix	Tuberculosis of appendix	Appendix *non* adherent	Appendix adherent	Appendix gangrenous and detached	Foreign body	Enterolith	Time of operation after attack, days	Recurrence after simple drainage	Rupture of abscess into urinary bladder	Circumscribed abscess, peritoneal cavity not opened	Abscess intra peritoneal, peritoneal cavity opened	Septic peritonitis without limiting or with incomplete limiting adhesions	General septic peritonitis with no adhesions	General septic peritonitis with incomplete adhesions	Rupture of circumscribed abscess into peritoneal cavity	Secondary local abscess into a different part of abdominal cavity	Appendicectomy during attack	Appendicectomy between attacks	Fecal fistula	Fatal sapremia	Pyemia
146	18-5 94	J T	M	1		3	50						1				10			1											
147	24-5 94	C C	"	1		3	36										11			1											
148	26 5 94	Mrs T	"		1		28	1	1	1		1					11				1		1				1			1	
149	28 5-94	L	"	1			56										9			1											
150	28-5 94	L W P	"	1			41	1				1					20 h										1				
151	1-6-94	O H	"	1			24			1			1				5				1						1				
152	4-6-94	A M	"		1	5	27		1	1			1				3				1						1				
153	10-6-94	N	"	1			40		1	1			1			1	4				1	1			1		1				
154	6 7 94	W	"	1			50		1	1			1				4						1				1			1	
155	6 7 94	A L	"	1			26						1				14												1		
156	8-7 94	O	"	1			45										8				1										
157	9 7 94	G	"	1			22										4				1		1								
158	19 7 94	I G	"	1			16		1				1			1	9			1							1				
159	23 7 94	T	"	1		1	19						1				3	1			1										
160	24 7 94	G G	"	1			18		1	1			1			1	4							1			1				
161	25-7 94	C	"	1			28		1	1			1				7				1						1				
162	6-8-94	S	"		1		16	1				1					2										1				
163	7-8 94	McG	"		1	2	42						1															1			
164	17 8 94	R	"	1			50													1									1		
165	24-8 94	A S	"	1		5	22						1			1												1			
166	4 9 94	M D	"		1		6		1				1			1	4				1						1				
167	4 9-94	J C K	"	1			35										10				1										
168	5 9-94	W B	"	1		2	14		1	1		1	1			1	5						1				1				
169	9-9 94	A J	"	1			20		1	1							6				1			1	1		1				
170	9 9 94	F	"	1			19		1	1		1				1	33 h						1				1				
171	11 9 94	B	"		1		11						1			1	7				1										
172	13 9 94	M	"		1		14										10				1			1							
173	22 9 94	D D	"	1		11							1					1													
174	22 9-94	A E	"	1			28										5														
175	26-9 94	G T H	"	1		1	24										6				1						1				
176	27 9-94	A H	"	1			8		1	1			1			1	4				1						1				
177	14 10-94	J C	"	1			18										9														
178	16 10-94	C E	"	1		1	37			1			1				21		1		1							1			
179	21 10 94	B P	"		1	12	21	1			1						36 h				1	1		1							
180	23-10 94	B P	"	1		1	27		1	2			1			3	9				1						1				
181	30 10-94	M P	"		1	10	16		1	2			1								1						1				
182	6-11 94	R A	"	1		7	24		1				1				15 h										1				
183	8-11 94	C B	"	1			31		1				1				5				1					1		1			
184	10 11 94	M T	"		1		16	1	1	1			1				18 h									9					
185	20-11 94	C E	"	1			28		1	1			1				3				1				1		1				
186	25 11 94	P	"	1			10		1	1			1			1	8				1						1				
187	26 11 94	B	"		1		9										14			1											
188	26-11 94	P	"	1			22			1			1			1	9				1						1				
189	30-11 94	W K	"	1			10			1			1			1	50 h				1						1				
190	6 12 94	T	"	1		1	17						1				8				1										
191	8 12 94	E	"	1			22						1				10				1										
192	10-12 94	B S O'C	"	1		3	52						1				12											1			
193	15 12 94	J S	"	1		1	25	1					1				23 h										1				
194	20 12 94	E B	"		1	1	26	1	1				1				8				1						1				
195	26-12 94	G M	"	1			21		1	1			1			1	9				1						1				
196	27-12 94	Miss X	"		1			1					1				6				1						1				
197	31 12 94	F M	"	1			18										11				1										
198	2 1 95	G	"	1			18	1		1			1				30 h				1						1				
199	4 1 95	G H C	"	1		3	26	1									4										1				
200	15 1 95	X	"	1			36																				1				
201	27 1 95	J E	"	1			15			1			1			1	3				1						1				
202	1 2 95	A H	"	1			25		1	1			1			1	82 h				1			1			1				
203	2 2 95	M	"		1		11		1	1			1				72				1						1				
204	2 2 95	J B	"	1			26		1	1			1				80				1			1			1				
205	4 2	C O	"	1			30		1					1	1	1	52				1						1				
206	16-2	M H	"	1		2	18							1	1		1										1				
207	21 2	M D	"		1		8							1	1		8										1				

clearly explained, but I believe it a reflex phenomenon as we have exactly the same symptoms produced in obstruction of the ductus cysticus with gall stone The appendix in cases of this kind is very much enlarged at the distal end—small at the proximal, its mucous membrane is thickened and contains a large quantity of hardened feces

The mortality in my cases, including all grades, and operating on every case of appendicitis, favorable or otherwise, which came under my observation, is 9 93 per cent Total number of cases operated to date 207 The following is a tabulated form of the cases operated on since my last publication, March, 1894

In the literature of this subject, I wish to call attention particularly to the contributions, each presenting various phases of the disease to a greater advantage than the other, of McFadden Gaston, Kraft, McBurney, Fowler, Maurice Richardson, Bryant, Shrady, Wyeth, Sonnenburg, Robt T Morris, Senn and McArthur

DISCUSSION

Dr D W Graham—In making a post mortem a few weeks ago, searching for the cause of death, the appendix was examined and it was a good illustration of what we might call an abnormally developed appendix seven inches long It was not bent on itself but was lying between the abdominal wall and the ascending colon, the end resting against the liver over the kidney, and was perfectly normal in structure It hardly had a mesentery at all, but was simply embedded in the peritoneum, at the line of reflection from the large intestine, on to the abdominal wall, and was perfectly straight

I am satisfied that we have an anatomical deviation from what is called the average normal size and position of the appendix more frequently than is generally supposed, and I am satisfied also that it accounts for many cases which seem to be very erratic in behavior Those cases, for instance, which Dr Murphy has described where the abscess appears on the left side, I believe are accounted for by an abnormally long, displaced appendix If the appendix I have described had become inflamed and an abscess had formed about its tip the abscess would have been in close connection with the liver and kidney, so that the most probable diagnosis would have been abscess in connection with the liver, or a perinephritic abscess I recall a case where the attending physician had made a diagnosis of suppuration of the liver where the early history seemed to point to the appendix, but an abscess could be made out I did not make any exploration but simply opened a large abscess and drained and in the course of two or three days the usual fecal stone appeared, showing that it was a case of appendicitis and perforation I think more attention should be paid to the point I have mentioned, in studying the pathologic anatomy of appendicitis

Dr A I Bouffleur—It is somewhat gratifying to note that we are gradually coming around to a position where we admit that we do not know very much about what we have to deal with when we have a case of appendicitis, and we must also admit that we do not know when we should operate, unless it be immediately, as soon as we recognize the case as one of appendicitis I think it is generally the case now that surgeons especially, will admit that there is no such thing as stating what appendix is going to slough off, become neurotic and perforate, or what one is going to recover Such being the case we have a good deal yet to look forward to in the line of the true conditions present in the different cases That we may hope some time to be able to distinguish clinically between a catarrhal appendicitis and a destructive form of appendicitis is certainly something we must look forward to with considerable pleasure, but that we will ever reach that status I am not now thoroughly convinced The specimens Dr Murphy presents to us this evening are illustrative of some of the conditions from a pathologic standpoint which I think would bear a little further consideration in addition to that given by him In the first case, the one in the large bottle, we have an appendix of reasonable length which is not especially thickened but has at the distal part about an inch of the surface of the mucous membrane which is distinctly necrotic Now the reason for this necrosis is that there has been a thrombosis of the artery which supplies the appendix, which according to Fowler is usually a terminal artery or there has been a very intense inflammation which is always of microbic origin If a thrombus forms in this artery we are sure to have destruction of the appendix beyond that point Sometimes the artery goes to the end without giving off branches and then returns, in which case we will have destructive necrosis between the point of obstruction and the base of the appendix When we have a case before us we do not know, whether in the course of a few hours that mucous membrane will necrose from the intense inflammation or necrose as a secondary process to the obstruction of that vessel, and as a matter of fact it does not matter much, because both usually result in perforation and serious trouble The next specimen calls up the inevitable stone, which as a matter of fact probably, plays a very small part in the production of appendicitis I think the stone theory of appendicitis is losing ground rapidly While it is present quite frequently yet it by no means has the prominence it formerly had in the production of this disease It is asserted that the stone causes necrosis simply by pressure The ordinary collection of feces which we find is so soft and small, compared to the lumen of the tube it could not possibly cause destruction in that way, but occasionally we do find one large enough and hard enough to cause pressure necrosis The percentage of these little collections of feces that are hard enough to cause pressure atrophy is so small, according to Fowler that we may look upon that as being practically no special cause at all Furthermore, if you will take occasion to examine the appendix in laparotomies where it is supposed to be normal you will find in the large majority of appendices these small collections of feces, without any symptoms of appendicitis The third specimen, the recurrent one, I think is a very good illustration of what some prominent Eastern operator has found in cases of recurrent appendicitis, namely, that it is a parietal inflammation, in other words, there is more than the mucous membrane involved Dr Murphy spoke of this as a catarrhal inflammation, which is probably true of the mucous membrane, but here there is also, from ocular inspection through the bottle, considerable thickening of the interstitial tissue of the wall In that case we have what is described as the second stage of appendicitis, or at least that stage which is manifest in the recurrent type or interstitial form of appendicitis In addition, we have the next stage with the peritoneum involved This classification is a convenient one and we may in time be able to differentiate between the three anatomic forms, but since the wall of the appendix is so thin and the infection is usually intense, we have rapid involvement of all the coats of the appendix which not infrequently ends in destruction In view of the fact that we are as yet unable to determine which case is going to terminate fatally within a few hours, and also that an operation when delayed, is practically useless in these cases, the primary or early operation is gaining favor very rapidly, and as it can be safely performed under the ordinary circumstances surrounding one in a house, it has a great many things in its favor as a legitimate operation It is an easy and safe procedure unless too much is attempted Emphasis should be placed upon the fact that it is not always necessary to remove an appendix to relieve the emergency of your patient's condition In cases attended with abscess formation the mere opening of the abscess with thorough drainage will tide the patient over the emergency condition and enable you to subsequently remove the appendix under much more favorable conditions and give the patient permanent relief with the least amount of danger I have seen two cases in which I am convinced, had I let the appendix alone, merely draining at that time and at a subsequent time removed the appendix, I would have given my patient a much better chance for recovery from the primary trouble and ultimate recovery from the whole trouble

Again, as to the point Dr Graham makes, I would say that the position he mentions is one of the recognized normal positions of the appendix, posterior to the cecum We have four or five positions recognized as being normal although some are quite rare, and that is the reason why we have a change in the location of the abscess cavity, but when the appendix is involved the change in the location of the pain is as a rule very slight, if the appendix is on the right side of the body, the first pain being generally referred to indefinite parts of the abdomen, the second pain being referred to what is called McBurney's point

Dr Le Count—I was very much interested in the last case reported by Dr Murphy, where the appendix laid behind the cecum underneath the peritoneum In the great majority of cases the appendix lies in the true pelvis on the right side, less often it is found behind the cecum, two or three times I have seen the appendix in the position mentioned and one very rare location was interesting to me where the appendix was entirely extraperitoneal in the mesentery of the small intestine where that joins the cecum We were unable to find it except by cutting the bowel open and probing the opening of the appendix In the majority of cases it possesses a mesentery of its own In regard to the terminal artery of the appendix it certainly is surprising that in this condition emboli are not found more frequently In regard to the necrosis that occurs, it is nearly always due to the specific action of the organism and not to pressure One condition noted by Dr Murphy was the rarity of catarrhal appendicitis The condition usually is not an inflammation of the mucous membrane but begins as a microscopic abscess in the submucosa, in the lymphatic elements that in other conditions act as filters and seem to act that way here A coalescence of these takes place in the submucosa and in the mucous coat I have examined two or three appendices from cases that were clinically catarrhal appendicitis and in all of them these microscopic abscesses were found in the submucosa a condition that could not be called in a strict sense catarrhal appendicitis

Dr. H N Moyer—When I was in general practice I saw, first and last a good many cases of appendicitis and as far as I know none died and none got well I do not know of one that would not have been better for operation, which ought to have been made at once I do not see any necessity of differentiating clinically The only thing to do is to find that you have appendicitis and then operate

Dr J B Murphy, in closing the discussion said The last comment of Dr Le Count is very interesting to me, and I wish to mention that in this case I call catarrhal appendicitis there are to be noted a number of necrotic spots they look like ecchymoses, but they are not There is an infiltration of the mesentery more marked than I have seen it in suppurative or gangrenous cases I noted that the ligature cut the entire mesentery I do not know that I understood Dr Bouffleur in connection with foreign bodies There were 4 foreign bodies in 103 cases, that means about 2 per cent There were 38 per cent of enlarged hard resisting concrements which produced trouble, not the soft material the Doctor speaks of If he had reference to foreign bodies such as cherry stones, etc , being uncommon in connection with appendicitis, I agree with him but the fecal stone is important when it is present in 35 per cent of the cases The one I show to night is of an average size and you can see that a stone as large as this existing in the appendix must produce pressure upon the wall I was glad to hear Dr Moyer, a man from the medical side of the profession, announce himself as he did that we should make a diagnosis of appendicitis and be satisfied with that, not trying to make any further differentiation until we make the operation, then we can clear up the other manifestations, the same as Dr Le Count does in a post-mortem

SOCIETY PROCEEDINGS

American Electro-Therapeutic Association

Fourth Annual Meeting held in New York Academy of Medicine, New York, Sept 25, 26, and 27, 1894

William J Herdman, M D , President

(*Continued from page 446*)

DIRECT CURRENT DISTRIBUTION

This automatic adjustment of the pressure to meet the constant requirements of a multiple system of translators may be somewhat imperfectly indicated by a water analogue

When the apparatus here shown is at rest, the water stands on the same level L^0 in all the pressure tubes *E*, *F* *G* *H*, as was the case in Fig 4 It is assumed that the rotary mechanism of the pump is constructed in four parts or sections fixed upon one shaft, each part revolving in a separate compartment of the inclosing box One of the compartments is constantly open for the free circulation of the water but the other three are controlled by gates or valves numbered 1, 2 and 3

If now the shaft be revolved by its pulley at a constant speed, while the valves in the cross or multiple arc branches containing the three water wheels are closed a pressure will be developed by the action of the constantly open section of the pump which will raise the water in the higher tubes to the levels L^1 and L^2, and allow it to fall in the lower tubes to L^3 and L^4, and this difference of levels between the higher and the lower tube will represent the pressure a able for useful work in the manner explained in connectio with Fig 4 We may also assume that unless the speed varied, this useful difference of pressure will remain co stant while no wheels are operated

Now let the valve of wheel 1 be open A flow will t place through its multiple arc branch and cause a re tion of wheel 1 and also a slow rotation of a turbine w indicated in the main supply pipe (through which all t water passes) and by means of a connecting shaft and be gearing the centrifugal governor at the left of the sk will also be revolved When sufficient velocity is attain the governor will raise gate 1 thus admitting addition water until the amount of flow is sufficient to properly o rate wheel 1 in spite of the friction of the current in t pump and pipes this friction being compensated for by ca ing into action the first additional section of the rota pump when gate 1 is opened In other words the pre delivered by the pump at the cross branch which cont wheel 1 (which pressure was sufficient to properly op one or more water wheels before any of them were set motion) is by the flow of current which occurs when th wheel is started maintained at the proper standard a this operation of maintaining the proper pressure is bro about by the stimulation or reinforcement of the action the pump which results from the current flow

The starting of wheel 2 affords a second path for the pulsion of water through the closed system of pipes and t greater volume of flow through the turbine wheel in rea the rapidity of revolution of the governor and raises st farther the vertical spindle which it controls until gate opened and a second additional section of the rotary pum utilized A further similarly increased action may b sumed to take place when gate 3 is opened When any o of the three gates is closed as a result of stopping the re lution of one of the wheels and thus retarding the through the main or turbine wheel a reverse action tak place the volume is automatically diminished, and pressure which would tend in the absence of the regulati mechanism to increase and thus make the remaining whe run faster, is maintained constant and hence the action the remaining wheels is unaffected

A combination of the series and multiple arc ideas w suggested by Mr Charles F Brush, very early in the pro ress of electric lighting The practical application of idea is roughly illustrated in Fig 10 Here a group translators arranged in multiple arc is placed in each buil ing or area and the different groups are connected in se By this means the enormous mass of copper required for su cessful multiple arc distribution is greatly reduced, becau a small current may be divided among a few lamps cons tuting one group and transmitted through many grou successively over a small wire While securing this desi ble result of a reduction in the cost of conductors this sy tem is open to the danger which always attends a series c cuit having many translators and therefore requiring ve high voltage, and it is also defective in that the extingui ing of any translator increases the current through t others of its own group and tends to decrease the curre through all the other groups The practical difficult which resulted from these conditions were so serious as be prohibitory, and this method has never been extensive used in electrical distribution

The difficulties which were inherent in such a multip series system as that proposed by Mr Brush were prac cally obviated for the purpose of large cities as well as areas of more moderate size, by an invention of Mr Edis known as the "three wire system" This method was in f brought out simultaneously with Edison's publication this country by Dr John Hopkinson of England, and each these inventors patented it in his own country It allow of avoiding the difficulties of the multiple arc system in large investment for conductors, and the difficulties of t series system in the matter of independent control of ea of the translators, or as I have said, it so far mitigated the difficulties as to make it practically feasible to spread candescent lamps or motors of moderate size over a cons erable area and enable them to supply numbers of scatter consumers, while each translator might be operated witho affecting any other

In Fig 11 I have shown how this system is practically a plied in lighting, for example, large areas of New York Ci The two dynamos at the left of the sketch are connected series, lamps in multiple arc are connected in groups tween the positive or red conductor and the compensati middle conductor and also between the middle conduct and the blue or negative conductor The system, as a whole, may thus be said to be divided into two multiple arc sections or divisions, one on the positive and the other on the negative side of the middle wire, and these divisions are in series with each other, the larger portion of the current passing out on the positive, through the two groups successively and returning by the negative While the system is balanced, that is while an equal number of lamps is operated in multiple arc in each of the two groups in series, the middle conductor by which these two groups are connected serves simply to carry the current from one subdivision of the positive section to one or more subdivisions of the negative section, and so simply has an 'intergroup" function

But as one of the objects of the invention is to allow of the individual control of every lamp, without affecting any other lamp, we find that when one of the positive multiple arc subdivisions is turned out, the dynamo on that side will send less current to the system, while the dynamo on the other side supplying the negative division will continue to send the same current as before, but the fraction of its current which is not needed by the remaining lamps on the positive side will pass up the middle wire and join near the lamps the current which has passed *through the remaining positive lamps, forming with them a* volume sufficient for the negative side If, on the contrary, a reduction were made on the negative side, the current produced by the negative dynamo would be lessened and the excess of current on the positive side which was not needed on the negative would flow from the lamps toward the dynamo, through the middle conductor, thus making this middle conductor perform a compensating function between the two multiple arc groups which are operated in series

By such a system as this thirty lamps, for example, may be operated by one-half the current which would be required if they were connected in simple multiple arc, and as a consequence of this reduction of current, the outgoing and return conductors may each be made one-half the size that would be required in the simple parallel system In addition to this, inasmuch as this one-half the current is projected through the conductors with twice the pressure that would be exerted in a simple multiple arc system, the use of this double pressure allows of the further reduction of one half in the size of the positive and negative conductors In short, if the two outside conductors are each made one-quarter as large as before, they will perform their work as economically as before when connected in the manner shown in Fig 11 The addition of the middle conductor (if of the same size as those on the outside), raises the expenditure of copper to three-eighths of that required in the simple parallel system

A careful inspection of this figure, in connection with the numbers placed along the conductors indicating that current for so many lamps is flowing at the particular point at which the numbers are located, will show that the middle wire carries but small currents for any distance, that these small currents are in some parts of the system in one direction, in other parts in the opposite direction, and that in some sections of the middle conductor there is no current at all This state of things exemplifies the normal functions of the compensating wire of the three-wire method, and it is because of this practical perfection of compensation that all the devices are independently controllable It is usually considered necessary to provide each of the dynamos of such a system with means of independent regulation, so that if the circuit becomes materially unbalanced, the dynamos can be properly adjusted with relation to each other so that each will generate the total E M F necessary to do its work successfully In practice, however, where more than a half dozen lamps are to be placed upon one service, that is to say in one building or area, a branch from each of the three wires is introduced into the building and the translators are so connected as to place an equal number on each side of the middle wire Thus a very close approximation to a local balance is maintained throughout the system, and departures from a close total balance are comparatively rare

The incandescent lamps ordinarily operated on a system of this kind are made to work with 110 to 120 volts, according to circumstances If such lamps could be successfully made for 220 to 240 volts and of the same candle power as at present, they might be connected across the outside wires of the three wire system, inasmuch as each of the three wire dynamos delivers a voltage equal to that required by lamps of the present type With such high volt lamps a system could be operated with all the economy of the present three wire system as to cost of copper and drop in the conductors, and the middle wire might be omitted Or, if such lamps were to be built for general use (and they have constructed in limited numbers) they might be connected with a three wire system as the 110 volt lamps are now connected, and the standard of voltage of each of the dynamos, and consequently of the system as a whole, might be doubled, thus providing for four times the number of lamps now operated within a given area, or for greatly increased length of conductors without exceeding the present percentage of conductor drop

The practical importance, to the physician, of a correct conception of the operation of this law of the distribution of electrical potential along one or many parallel circuits, in proportion to the resistance encountered, receives clear illustration in the extreme case of applying currents fatal to human life in electrical executions I have witnessed two such applications, and as a result of the first one, I had the pleasure of participating in the discussion of the able paper read by Dr Carlos F MacDonald before the New York Academy of Medicine, March 16, 1892 In this paper Dr. MacDonald summarized the phenomena which he had observed at the first seven executions under the present New York law In response to his invitation, I analyzed the *electrical conditions which I observed at the death of* McElvaine, the Brooklyn murderer, for the purpose of pointing out the fact that a much greater electrical energy was applied than was apparently necessary to effect the result, because owing to the plan pursued in applying the electrodes, the greatest portion of the resistance encountered by the current was probably not in the vital organs, but in and near the surface contacts and the bony structure As a result of this assumption (and I think it is susceptible of proof) the greatest fall of potential and therefore the greatest expenditure of joules of energy must take place outside of the brain and other nerve centers, and must fail to have any appreciable effect upon them and upon the heart and lungs, where complete paralysis is in such a case desired

Perhaps I may be pardoned if because of my very limited opportunities for observing cases which seem to carry the most force to the physician's mind, I use this somewhat repugnant illustration, and reproduce a diagram made in connection with the discussion I have mentioned, and quote one or two of the points then emphasized

In opening the discussion, our esteemed Fellow, Dr W J Morton, remarked that it was not the mere voltage that must be relied upon to kill and it seemed to me then as it does now, that from this text a practical sermon might well be preached by some medical authority, applying the principle to the remedial uses of electrical energy in your every-day practice I may be able to so state the conditions that some one will thus draw the proper practical deductions

Perhaps a desirable form of expression is that the lethal or remedial effects which attend the flow of a given current, at a given density in any tissue, for a given time, are proportionate to the distribution of fall of potential or expenditure of the total applied voltage

I think I may say that the fact that alternating currents were used at the execution of McElvaine does not probably cause the problem to vary in any great degree from the conditions expressed in the diagram now before you In its details I have for simplicity assumed that no variation is met, and the force of the lesson we may draw is not lessened, though it may be found that new factors are introduced by the substitution of alternating currents of varying periods, for the direct distribution to which I am supposed to restrict myself

To apply a pressure of 1,000 volts, alternating from 200 to 300 times a second, and maintain that pressure for an appreciable time against the resistance of the human body, from the forehead to either leg below the knee, does not probably greatly increase that resistance at the instant of contact Or, if it has such an effect, the maintenance of the so-called current reduces the effective resistance so speedily that we get from 1,000 volts, an expenditure of energy at such a rate as snuffs out the life of the criminal more quickly than neural impression can be carried from the point of contact to the seat of sensation in the brain

The energy that kills is therefore (with a given frequency) the product of three factors 1, the electrical pressure or electro-motive force that is applied to the surfaces of the body, or, in more accurate technical language, the effective difference of potential (in volts) between the electrodes, shown by the Cardew voltmeter, 2, the rate of expenditure of this potential in each unit of resistance (or impedance) in the body, or the number of volts fall of potential to the ohm

the skin in different individuals, and the difficulty in so adjusting the electrodes as to have identical conditions He had concluded that the only accurate method would be to introduce the electrode beneath the skin Another difficulty which he had met with was the fact that the skin itself presented such a large proportion of the resistance of the entire body that there would be but a very small margin for investigation as to the variations in the different bodies He would like to have the reader of the paper propose some way of overcoming these difficulties

Mr Jenks said that his knowledge did not extend beyond the suggestion, in fact this suggestion had been made to him by Mr Kennelly He was not aware that any experiments had been made which would throw any further light on this subject

Dr Morton said he did not wish such a valuable paper to pass by without saying something in recognition to the author He did not feel competent in any sense to discuss those intricate electrical problems from the standpoint taken by the author, but there were certain questions which suggested themselves to the minds of physicians He had been especially interested in the statement that physicians were applying a certain amount of *energy* to the living organism—energy against energy He was also pleased in the reduction of the expression energy, to terms which we could all understand If the physician used the Franklinic current his mind was occupied with electro motive force, if he used the constant current then current strength was prominent in his mind, etc We first thought a great step had been made when the milliampère meter was introduced, but we now know that we should take into consideration also the question of voltage

It was true that we might express electrocutions in terms of horse-power, and speak of them as two, three or four horse-power deaths, the author said we must go still further and take in the elements of time and express the effect of the current in joules This would mean that we must go still further in our practical work and express it also in joules

This subject of electrocution was a grewsome one, and in his opinion we, as electro therapeutists and physicians had nothing whatever to do with it We should relieve and cure people and not deliberately take any part in causing the death of any human being So far, he had always refused to witness these executions although he had been invited to do so He believed with Monsieur D'Arsonval, who put forth that startling theory that these criminals were not really killed by electricity He thought it was even now a question of the old Scotch verdict, "not proven " This being the case, the person performing the autopsy was responsible for the death of the criminal, so the responsibility was again turned upon the medical profession where it did not belong In order to prove that the death was due to electricity, we should wait for decomposition to occur, and not perform an autopsy within a few minutes after the application of the current

In conclusion, the speaker said he welcomed such a paper, and particularly the subject of measurement reduced at last to one of energy instead of voltage and current strength

Dr Dickson said he agreed with the last speaker that when we stopped at using the milliampère meter we had not done all we should do

(*To be continued*)

Louisville Academy of Medicine

Regular meeting was held March 18, 1895

Dr I N Bloom was the first speaker, and said I wish to show this negro woman, about 40 years of age, whom I saw for the first time on February 22, having been sent by Dr Satterwhite At that time she exhibited an eroding ulcer, about the size of a penny piece, involving the left ala of the nose, on its outer margin While I was in some doubt as to the diagnosis, between epithelioma and lues, I noticed her fingers which present the characteristic signs of hereditary syphilitic dactylitis The woman, however, says that her fingers have only become so in the last two or three years She was married about twenty years ago, but has been separated from her husband a number of years In addition she complained, when she first came under my observation, of severe headaches, not to be located in any one part more severe at night Under the mixed treatment these have almost disappeared, and as you can see the ulcer upon the nose is almost entirely healed I show this case chiefly on account of the dactylitis These cases are seen with extreme rarity I was in the hospital in Vienna for years, as Hospitant, and saw very few cases In out-patient, hospital and private patients, I do not think I have seen more than twelve cases The text-books would lead us to believe that they are common I have not seen them, and would like to ask if any of the Fellows have seen a similar case I see typical cases of syphilitic manifestations repeatedly This case presents no other features of interest

Dr T C Evans—I happened to be present in Dr Bloom's office when this patient came in, and noticed the dactylitis It has the appearance of that seen in congenital syphilis I have seen five or six cases in children with hereditary syphilis, but this is the first case I have seen of acquired syphilis with dactylitis

Dr Ap Morgan Vance—It perhaps happens that the general surgeon sees a good many more of these cases than the specialist, he being consulted for some "bone trouble" I have seen considerably more than a dozen cases, I think, in my fifteen years' experience

Dr W C Dugan—I wish to show a specimen removed from a case operated on yesterday It is the omentum and sac removed from a femoral hernia There is one point I want to bring out in reporting the case Day before yesterday at 2 o'clock, she complained of pain in the femoral region, her family physician was called in and diagnosed femoral hernia He used taxis for a few minutes as did the patient also without success I was sent for and found a large tumor in the groin, no pulsation or coughing no tympany Pulse 80, and good No perspiration The patient was inclined to joke, in fact, all the symptoms showed there was no great impression of the nervous system I looked on the case rather as an omental hernia than an intestinal, and was inclined to let it go until morning, but fearing there might be a small piece of gut, I operated that night Dr Evans administered the anesthetic An incision was made through the abdominal wall, not cutting in through Gimbernat's ligament as usually advised, but Poupart's ligament, cutting through the sac, and made a radical cure Here was a case with a pulse under 80, no constitutional distress, had vomited only a few times, yet the gut was almost gangrenous This shows that we can not tell what we are to find If I had let her go until morning, gangrene would have occurred She is doing well now and will soon be up

Dr Vance—I think Dr Dugan was right in not letting an incarcerated hernia go from night until morning It is right to give the patient the benefit of the doubt

The paper of the evening was read by Dr John F Barbour Subject,

THE PRESENT STATUS OF LINEAR CRANIECTOMY

The author stated that the first case operated upon was by Dr Fuller of Montreal, in 1878, for idiocy, and that the operation was not done again until 1890, when Lannelongue performed it The latter's statistics were quoted These were written four years ago, but since he has been silent All reports lack as to the state of the patient before operation Its object is to give full scope to the brain by lessening resistance, there being premature ossification The following pathologic conditions were mentioned as causing idiocy

1 Microcephalus
2 Hydrocephalus
3 Arrested development of the convolutions
4 Poroncephaly from congenital malformations
5 Pseudocysts from pathologic malformations
6 Hypertrophic sclerosis
7 Atrophic sclerosis
8 Tumors of the brain
9 Meningitis chronic meningo-encephalitis
10 From pachydermatous or myxœdematous cachexia due to absence of thyroid gland

Eighty-nine operations were tabulated There were sixteen deaths, the results were practically *nil*, in twenty cases, of the remaining fifty-three, four recovered from the operation, one had epileptiform attacks less frequently, and in forty-eight there was improvement but the details were meager and unsatisfactory There is hardly an operator who has submitted a later report The history of the case reported, which occurred in the writer's practice, was as follows

There was no history of syphilis, idiocy or insanity in the family At four months the anterior fontanelle closed, and the symptoms dated from this time There was no sphincteric control, the child could not sit alone erect, it had a pained expression, low whimpering, epileptiform seizures as many as twenty-four times in a day She was extremely restless, recognizing only her milk bottle The operations were done by Dr Vance—linear craniectomy April 6 and

SELECTIONS

Cow's Milk, its Sterilization and the Nourishment of Children —The article under this heading in the *Berliner klin Wochenschrift* by Biedert is chiefly polemical and directed against Heubner It contains no new facts of importance, but its essential drift is to show that in the depreciation of the fitness of milk as food for children, the chemic composition of the same from the bacteriologic standpoint must be regarded of prime importance The superiority of mother's milk to cow's milk in this connection must never be forgotten In conclusion, the writer calls special attention to the advantages of his cream mixture and its increasing recognition —*Centralblatt für innere Medicin*

Two Cases of La Grippe of Pseudo-phthisical Form —(Chatin and Collet in *Lyon Med*, 1894, No 41) These writers observed two cases of influenza with pulmonary complications which they were forced to regard as phthisis from the physical examination There existed dullness on percussion over the apices, sonorous râles, cavernous respiratory murmur, copious, purulent, nummular sputa In one case the diagnosis of phthisis was given up, because there was no fever and no loss of weight and especially because no tubercle bacilli were found in the sputum The other case proved fatal, and the autopsy showed edema of the lungs, splenization at the apices, no sign of tuberculosis, no broncho-pneumonia, no caseous foci Similar observations have been made previously —*Centralblatt für innere Medicin*

The Influence of Erysipelas on the Course and Termination of Asiatic Cholera —N Blagowjeschtschenski (*Medicinskoje Obosrenje*, 1854, No 15), during the cholera epidemic superintended the bacteriologico clinical station opened in Merv (in the trans-Caspian province), and observed here, among 300 cases of cholera in hospital, with a mortality of 52 per cent, the coincidence of this disease with erysipelas four times In these cases, in all of which the diagnosis was confirmed bacteriologically, the erysipelas was first manifested during the algid stage on the third or fourth day of the disease In every case the appearance of the eruption influenced favorably the course of the cholera The low temperature yielded at once to the high temperature curve of erysipelas Diarrhea and cramps ceased immediately and the general condition of the patient became markedly improved within twenty-four hours The languor disappeared, urine was excreted, appetite and sleep returned The course of the erysipelas was also relatively light and the eruption not extensive In conclusion, he writes "If one can assume that, under the influence of the toxin producing cholera, the heat center in the organism is paralyzed, in the same way it can be accepted that this center under the influence of the erysipelas toxin regains its irritability"—*Centralblatt für innere Medicin*

Retention of Water in Fever —Contribution to the Question of the Importance of Ingestion of Water and Increase of Elimination in Infectious Diseases —(Julius Glax at the celebration on the completion of the thirtieth year of the Professorship of A Rollett) The writer formulates an opinion, based on fifty-three cases of typhus (abdominalis) on the question often answered contradictorily, whether the human body retains water in the tissues during fever, or on the contrary is deficient in water The urine was collected and no case included in which diarrhea was too free Treatment, cool bathing and galvanization at the neck Amount of water ingested was noted He concludes that there is a conservation of the water supply during fever, and in convalescence an increased elimination, frequently coincident with the decline of temperature and at times an indicator of speedy complete defervescence On the other hand after the initial chill and subsequent rise of temperature, the elimination is usually increased for a short time The explanation is that at the onset of fever, while the blood pressure is yet high, the diuresis occurs, but a diminution ensues as the pressure becomes lower and a still later increase as strength returns If strength is not much impaired, the elimination is only correspondingly decreased An increase in ingestion of fluids increases the elimination in most cases only after defervescence has begun, while during the height of the fever, diuresis appears to be more favorable, the more limited the ingestion The recommendation of Cantani and Sahli, that infectious diseases be treated by increased supply of fluids to cleanse the tissues is combated at some length as founded on false premises In conclusion, the assertions of the writer are easily reconciled with the fact that by drinking cold water in health the temperature and pulse are lowered, and diuresis occurs, for this happens only when the heart and blood pressure are normal —*Centralblatt fur innere Medicin*

Influenza and Accompanying Pneumonia During the Last Epidemic, 1893-94 —Gineiner (*Prager med Wochenschrift*) had the opportunity to observe 403 cases of influenza in Donawitz by Leoben between Dec 10, 1893, and March 11, 1894, 6 9 per cent of all the inhabitants were attacked, three times as many adults as children, and three times as many men as women, 27 per cent of the cases occurred between the ages of 30 and 40, and no child under 1 year was included The largest number lived on the ground floor (50 1 per cent), while the third story held the fewest (5 5 per cent) The most commonly observed group of symptoms was sudden chill or chilliness with a temperature of 39 to 40 degrees C, aching, feeling as if one had been beaten heaviness of the head, anorexia and constipation These symptoms lasted on an average two or three days It was never possible to recognize signs in the lungs in the first days, these, beginning later, belong rather to the complications The nervous system was very seldom affected, but neuralgia was often seen as a sequela Protracted dyspepsia was a frequent complication and quite often enlargement of the spleen Acute nephritis in 1 per cent of cases Ninety cases of influenza, also 22 3 per cent of all forms of sickness, were complicated with pneumonia, and of these 64 4 per cent were in men, 14 4 per cent in women, and 21 2 per cent in children (none below 10 years of age) Almost all the children were attacked with pneumonia as a complication, but those patients between 30 and 40 years of age were best able to withstand the severe attacks The greatest percentage of cases complicated by pneumonia (56 6 per cent) and also the greatest mortality (27 4 per cent) occurred among those living on the ground floor The influenza pneumonia was distinguished from croupous pneumonia by the heavy sweats which were present from the onset but which did not influence the temperature The type of fever was also different The decline was more commonly by lysis than by crisis Meningitis complicated ten pneumonias (11 per cent) on the fifth to the eighth day, always with fatal termination, while Jürgensen states 5 per cent as the ratio of meningitis in croupous pneumonia While in croupous pneumonia generally after complete consolidation the condition remains stationary until the temperature falls, in influenza pneumonia the condition was always changing, one area beginning to clear while another previously free, suddenly became infiltrated The sputum was generally rusty The mortality in influenza pneumonia amounted to 27 per cent, and was largest among the elderly patients, no child died It is interesting to note that during the influenza epidemic, no other infectious diseases prevailed except a few cases of typhus (abdominalis) Sickness increased with the lowering of air pressure and temperature, cloudy weather increased the disposition, but no influence could be ascribed to a precipitation of moisture The direction of the wind, on the other hand, seemed not without influence, for in a valley lying south of Donawitz, which had hitherto been exempt, suddenly in the early part of February the residents of various houses were attacked, and records show that from the end of January the wind was constantly from the north Surely the wind bore onward the specific cause, since a direct transfer by means of the existing active intercourse would have been accomplished much earlier

The greater disposition to the sickness among those living on the ground floor, which is also the case, according to Buchmüller, in croupous pneumonia, and also the firm hold of influenza on certain houses, led the writer to the conclusion that the cause is developed in the earth, and thence reaches the dwellings Since he was never able to find a direct transfer from person to person, he regards influenza as a miasmatic infectious disease The chief complication, pneumonia, might also be induced by the same influence —*Centralblatt für innere Medicin*

Scotch villages where the residents are, we may say, acclimated and have become hereditary attendants to the insane this danger is perhaps at a minimum, but the scattering of the chronic insane throughout a farming section, for example, with the freedom and daily contact with individuals of all ages, susceptibilities and predispositions, has a very objectionable aspect in this special regard. There is a certain element of risk in it, not only to the intellects but also to the morals of those who from age or otherwise are in any way impressionable in these respects, and even the best selection of subjects can not altogether guard against this danger. It may not be a very apparent objection to the system, but it is a real one that ought not to be left altogether unconsidered.

Thus far the boarding out plan has been experimented with only to a very slight extent in this country, and in only one State, Massachusetts. It is, however, one of the plans frequently and ardently advocated, and will probably before long come to the fore in some form or other, in many other sections. It falls in with the sentimental tendency to demanding all possible freedom and lack of restraint for the insane, which seems to be growing rather than decreasing, but which has its bad as well as its good side, and should be tempered by good judgment with careful appreciation of all the actual conditions. It is safe to say that if adopted anywhere, it should only be considered as an experiment and an enforced alternative, not as really an improvement over other methods of public care. We certainly can not, in the existing state of affairs in many portions of the country, immediately expect any such success as has been attained in Scotland, where the best we can say is that the disadvantages are reduced probably to a minimum. Well managed county almshouses such as are found in different parts of the country,—the so-called county asylums of Wisconsin, for example, with all their disadvantages, and they are often very serious ones, are, on the whole, probably a better method of caring for the overflow of the insane from the asylums in this country than would be the plan here discussed. At least this will be true until we can have systems of State care for all the insane, with supervision as competent and thorough and independent of political changes and control as that of Scotland.

"PRINT THE FORMULA ON THE LABEL"

The *New York Ledger* has had the name of being a safe family newspaper, and not a few medical men throughout the country have been among its regular patrons. In view of this fact it should be noted that that paper has, in its editorial columns, come out boldly in the defense of quack remedies, and has already opened its columns to the manufacturers of sarsaparillas, etc. The editor takes for his text the fact that that grand old State, Alabama, has before its Legislature a bill that requires that no patent or proprietary medicine shall be sold unless the formula of the compound shall be printed on the label of the package containing the article.

The editor finds cause for blame against the conservative and preservative legislators of Alabama on the score that such bills are the outcome of the trades-unionism and selfishness of the medical profession. He alleges, while he can not prove, that the free use of quack medicines make a saving in the doctors' bills, giving little heed to the well known fact that much of the money spent for patent compounds is money spent in the behalf of a speedier call for the physician or the undertaker than if the compounds were left alone. The editor unadvisedly maintains that quack remedies do enable our fellow-citizens to dispense with the services of the regular practitioner, and that this is the real incentive to legislation of that restrictive character that has been found most salutary in certain foreign communities.

The fact remains that the course taken by our Alabama fraternity is probably the one that cuts most deeply into the patent medicine business, therefore, let us urge on every suitable occasion that the manufacturers of these more or less dangerous articles be forced to *print the formula on the label*.

The following are two of the closing paragraphs in the *Ledger* editorial named above, going to show, first, that the quack medicine is convenient and therefore worthy of financial recompense, and second, that a little knowledge of medicine is not a dangerous thing. Nothing in the way of refutation of these arguments needs to be adduced before the readers of this JOURNAL, but we believe it to be well for our readers to know a little of the kinds of defenses that are being constructed for dangerous quack preparations.

"The firm that put on the market the gimlet-pointed screw and amassed a fortune by the means of it had, by reason of the low price and convenient shape in which this article was furnished, a claim on the public for suitable recompense for their efforts. Just so the individual who prepares and offers for sale in convenient form some simple medicine has every right to the monetary return that an excellent article is sure to bring.

"It is the sheerest nonsense to suppose that medical men can form a close corporation and absolutely control the dispensing of medicines. The world is full of people who have most excellent sense about the use of remedies, and are quite as capable of prescribing them as the ordinary doctor. Of course, this cuts into the business of the physician in a very emphatic fashion, and this fact, and not the affectionate solicitude of legislators, is the motive that underlies the introduction of bills of the sort described."

The Forty-sixth Annual Session of the AMERICAN MEDICAL ASSOCIATION *will be held in Baltimore, Md.* on Tuesday, Wednesday, Thursday and Friday, May 7, 8, 9 and 10, commencing on Tuesday, at 10 A.M.

by demonstrations that oblique astigmatism does not cause obliquity of the retinal images" Since Dr Savage did not know anything about my arguments it is not surprising that his criticism is so little to the point and consists simply in "threshing over old straw"'

The object of my remarks was to demonstrate the fallacy of the proposition that in oblique astigmatism the retinal images of horizontal or vertical objects are not themselves horizontal or vertical, or in other words, as Dr Savage formulated it in his paper on the harmonious symmetrical action of the oblique muscles, that the image of a horizontal arrow can not be in the horizontal meridian of the retina, but is made slanting by the prismatic action of the astigmatic cornea" This obliquity by a prismatic action of the astigmatic cornea was *assumed* also (but not *demonstrated* as Dr Savage erroneously stated) by Dr Lippincott to explain certain phenomena of distortion of images in astigmatic eyes Now I have shown and I believe convinced by my demonstrations all the members present at that meeting, that the image of a horizontal (or vertical) line thrown upon a screen through a sphero cylinder lens equivalent to an astigmatic cornea does not suffer any such prismatic deflection As a full account of my arguments will appear in the April number of the *Annals of Ophthalmology and Otology* it is not necessary to argue this point here any further It is sufficient to repeat what I have already once stated, viz, that inasmuch as Dr Savage was not conversant with the nature of my arguments, he could not intelligently and successfully attack them

In conclusion, I wish to call attention to the fact that in this letter Dr Savage has used the words *obliquity* and *distortion* of the retinal images as if they were interchangeable terms But they are not synonymous, they apply to radically different conditions, for the retinal image may well be distorted without necessarily being oblique The image of a luminous point, for instance, is distorted by an astigmatic cornea into an oblong figure, because the rays passing through the astigmatic meridian are not brought to a focus in the retina The elongation, therefore, always corresponds with the direction of the astigmatic meridian, if the latter is horizontal (or vertical) the oblong image will be horizontal (or vertical) and if the meridian is oblique the elongation will be in an oblique direction, but it is evident that this obliquity of the image is caused by imperfect focalization and must not be confounded with the obliquity caused by the prismatic deflection *assumed* by Drs Savage, Lippincott and others While I deny the existence of the latter *obliquity*, I am the last person to deny the *distortion* of the retinal images, for I regard the distortion of the image of a light point as the most valuable sign for detecting astigmatism, and have for many years made the best practical use of it in my astigmometer F C HOTZ, M D

A Simple and Effective Method of Treatment in Purulent Conjunctivitis of Infants

INDIANAPOLIS, IND, March 25, 1895

To the Editor —Twenty five years of eye-practice, private, and in hospital, has given me abundant opportunity to test the relative merits of the different methods of treatment in suppurative conjunctivitis of infants

Until about one year ago it was my belief that nitrate of silver, when properly applied, was the most reliable of all medicines in this dangerous disease In my hands, as well as in those of my professional brethren with whom I am intimately acquainted, it has never failed to cure, if begun before ulceration of the cornea has taken place

To *properly apply it* does not mean to drop it into the eye, one or more times daily, as it would by such a method be too irritating, if used of sufficient strength to control the suppurative process It must be applied with a camel's hair pencil to the thoroughly everted palpebral and reflected portion of the conjunctiva, and then washed off, without suffering it to come in contact with the cornea, as strong as 10 to 40 grains to the ounce of water, according to the gravity of the case, or the profuseness of the discharge

How many physicians are there who can properly evert the lids of a newly born infant? This question can only be answered by those who have tried it To carry out this method of treatment until the case is cured, it is necessary that the physician make the application himself, once in every twenty-four hours It dare not be given over to a nurse or parent, and it has to be kept up from two to six weeks

Let us compare the above difficult but almost certain method to a more simple and easily practiced one, which was introduced by Dr X C Scott of Cleveland, who presented it to the AMERICAN MEDICAL ASSOCIATION at its last annual meeting It is as follows

Hydrastia sulph Acid boric Sodii bi-borat	āā	grs v
Tinct opii deod		℥ss
Aquæ dest		℥j
Mix and filter		

Dr Scott has the eye cleansed every twenty minutes and cold compresses applied when required He then has the above solution injected into the upper and lower conjunctival sacs, about six times a day by means of a medicine dropper with a nozzle long, smooth, and strong enough to be easily introduced beneath the upper lid without breaking Once a day he used, in addition to this, a 1 per cent solution of silver nitrate to the inner surface of the lids (He *tells me that he does not use the silver now*)

It will be seen by those who have read the discussion which followed his paper, that nearly all of the gentlemen present gave all of the credit to the silver treatment They seemed to ignore the fact that the cases got well in about one fifth of the time usual to the silver treatment alone It was my fortune to hear from Dr Scott's own lips all about this method several months before he read the paper to the society I tried it on a case a few days afterward It was a very severe one occurring in both eyes, one of which had ulceration of the cornea I gave a very grave prognosis A 20 grain solution of silver was applied to the everted conjunctivæ and the yellow root solution was given to the nurse, to be dropped into the eyes every hour afterward On visiting the hospital the next day I was surprised to find that the discharge of pus had nearly ceased I therefore simply had the yellow collyrium used every hour, for a few days, and in ten days the child was cured except the ulcer, which at this date is well and only a small opacity remains

I have treated several very bad cases since then, all of them were cured inside of two weeks All that seems to be necessary is to inject it under the lids every hour, cleanse the eyes still more often with tepid water, and use every night a little vaselin on the edges of the lids They should be watched by the physician to see that nothing goes wrong, and he should be sure to see that ulceration of the cornea did not exist before the treatment was begun

A greater boon never was given to the busy physician than this one of Dr Scott It will save many a child from blindness J L THOMPSON, M D

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ASSOCIATION NEWS

Section on Physiology —Dr E H Woolsey, the President of the Section, requests that those having papers on electricity and its medical applications read them in this Section, if circumstances will permit At the last meeting interesting papers on electricity were read in this Section, with illustrative demonstrations on animals It is especially appropriate that the physiologic relations of electricity be discussed here Several important and interesting papers have been promised for this Section

Dr Ephraim Cutter, of New York, will read a paper on Food and Thrombosis, Dr J Mount Bleyer, of New York, offers elaborate demonstrations of some novel applications of the kinetograph, to accompany a paper entitled, Researches in Rapid Photography by means of Edison's Kinetograph, and the animated Reproduction by the Kinetoscope, showing also by this method the present and future possibilities of taking and reproducing certain animated physiologic movements of the larynx, heart, intestines, etc, and certain diseases having visible symptoms, etc, with a historical review of fifty years of photography

Dr E H Woolsey will read a paper on the Physiologic and Pathologic Effects of Electricity, and also some notes on Practical Experience with Electricity

Dr Charles Gilbert Chaddock, of St Louis, will read a paper on the Physiology of Instinct

Those having papers to present in this Section will kindly forward titles immediately to Dr C G Chaddock, Secretary 2900 Washington Avenue, St Louis, Mo

Section on Ophthalmology —The officers of the Section will be unable to arrange for the reading of any more papers than have already been promised for the meeting at Baltimore

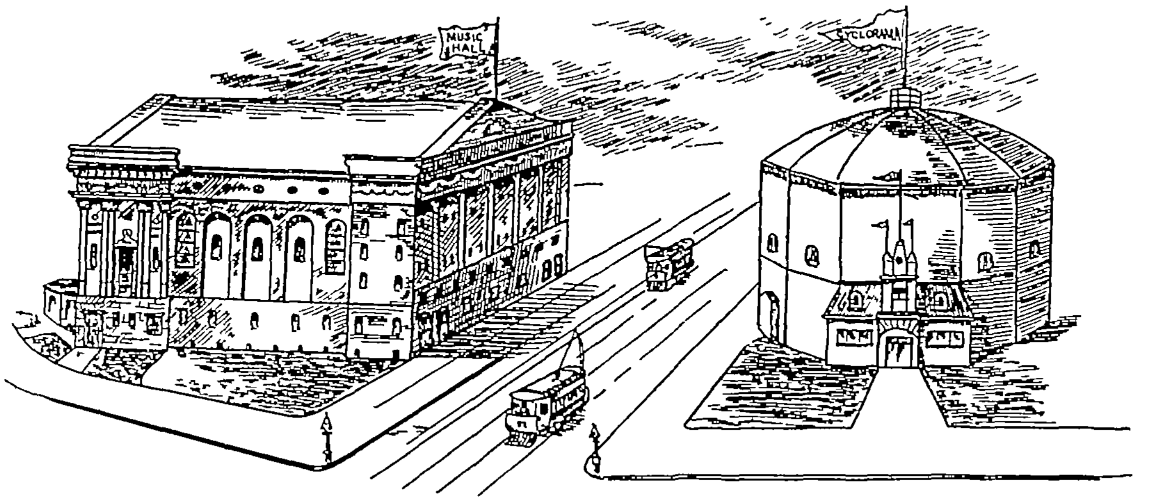
EDWARD JACKSON, Chairman

Denver, Colo, March 20, 1895

Proposed Botanical Garden for New York City —It is proposed to raise $250,000 for a garden in one of the public parks of New York City It is reported that more than $200 000 have been privately subscribed for that purpose When the other fifth shall have been raised the aid of the city will be demanded Bronx River Park has been selected as the preferable place for the garden Among those who are interested in the undertaking are Seth Low, Cornelius Vanderbilt and Bishop Potter

AMERICAN MEDICAL ASSOCIATION

FORTY-SIXTH ANNUAL MEETING



Music Hall Museum of Exhibits

BALTIMORE, MD, MAY 7, 8, 9 AND 10, 1895

PUBLIC HEALTH

Sanitation and Cholera —To the improvement of the sanitary conditions in India within the past few years is attributed a reduction in the annual average of deaths from Asiatic cholera from 43,000 to less than 19,000

A Grewsome Connection —The prevalence of contagious diseases in the New York City schools has led to comment and investigations As a result of one of these it has been developed that of 112 school trustees 23, or a little less than 20 per cent, are undertakers The New York *Times* says 'The fact is suggestive, it would be amusing if it were not so tragical"

Infectious Stage of Smallpox —It is understood to be a practical working axiom among medical officers of health, in this country at least, that smallpox is not infectious until the eruption appears Dr N Von Arx, House Physician to the Olten Kantonspital, furnishes to the *Correspondenz-Blatt fuer Schweizer Aerzte* the details of a case in which it would appear that the disease was contracted from a patient during the febrile stage and fully forty-eight hours before the first traces of smallpox rash were discovered The details are so full as to leave no room for doubt as to the infection of a second patient from the first, and that transmission of the contagion took place before any cutaneous manifestations of smallpox had developed

To Protect the Public Against Spurious Antitoxin —A bill has been introduced in the Connecticut Legislature for the protection of the public against inefficient and false diphtheria-antitoxins, some of which have already been offered for sale by unscrupulous dealers The bill provides that some authoritative guarantee for quality must be supplied for all of the remedy that is put on the market in that State

Case of Leprosy at New York —Some considerable notoriety has arisen in connection with the case of the leper C G, reported in this JOURNAL, on March 16, on account of the discovery by the New York City Board of Health that the case has not been reported, although under observation at intervals for six years Dr Ashmead is reported as taking the position that he had not been called in to treat the patient, that he had at no time prescribed for him, and that there was no law requiring him to report the case to the city authorities He had reported the case to the Supervising

increase of brutality toward wives by drunken husbands, while at the same time the crime of assault on little girls will be repressed

Another Jubilee Hospital —The medical profession of Vienna proposes to commemorate the fiftieth year of the reign of the Emperor, Francis Joseph of Austria, by the foundation of a hospital for children with a capacity of 1,000 beds The Emperor succeeded to the throne in 1848, it is doubtful, therefore, whether this gigantic monument may be realized to mark the fiftieth year of his reign, but there is much enthusiasm for the project and its completion is confidently anticipated

"Let the Inebriate Smile Again" A Hint from Norway —A valuable hint comes to us from Norway The way seems to be opening up for a form of moderate excise legislation that will in the long run be in the best interests of the lovers of alcohol In Christiania, the capital of that land, no sale of beer or spirits is now permitted from Saturday afternoon to Monday morning, except to permanent guests residing at respectable cafés This regulation has led to such a great diminution in the consumption of drinkables that the publicans have begun to complain that the liquor trade is no longer profitable One day's break in the week is enough to show a great many imbibers the advantages of abstinence, even if it be limited in duration

Necessity of Frequent Visits —The Supreme Court of California (Todd v Myers, 40 Cal, 355) in an action brought by a physician for professional services—the defense being that the visits were too frequent and not necessary—rules that "the defendant having admitted the employment of the plaintiff as a physician to treat his wife and children, the plaintiff was the proper judge of the necessity of frequent visits, and in the absence of proof to the contrary, the court will presume that all the professional visits made were deemed necessary and were properly made It would be a dangerous doctrine for the sick to require a physician to be able to prove the necessity of each visit before he can recover for his services This is necessarily a matter of judgment and one concerning which no one save the attending physician can decide It depends not only upon the condition of the patient, but in some degree upon the course of treatment adopted"

An Attempt at Discipline Fails —In the Kings County Medical Society, N Y, an attempt was made in March to bring to book a certain member who had been charged with having transcended the by-laws of that society, in the matter and manner of his publications on the opium habit and similar topics The council of the society consisted of the following officers Drs George McNaughton, President, Joseph H Hart, Vice-President, David Myerle, Secretary, William C Braislin, Assistant Secretary, Charles N Cox, Treasurer, O A Gordon, Assistant Treasurer, William Browning, Librarian, Joel W Hyde, George E Law, W W Browning, J M Warfield and Glen R Butler, Censors, W B Chase, Frank E West, Charles Jewett, Z Taylor Emery and Isaac H Barber, Trustees, brought in the charges and a recommendation for suspension of one year The matter was debated and brought to a vote, whereby the council suffered defeat In order to sustain the charges a two-thirds vote was required, this number was not quite reached The council lacked two votes This society at its last anniversary meeting re enacted its fealty to the Code of the AMERICAN MEDICAL ASSOCIATION, while retaining its delegate relations to the State Medical Society, which has abrogated the AMERICAN and all other codes

New York Commission in Lunacy —The Governor of New York has re-nominated, as Commissioner of Lunacy for the State, Dr Carlos F MacDonald, formerly the Superintendent of the State Asylum for Insane Criminals at Auburn The Commission contains two lay members and one physician These members have been, in the main, working together harmoniously and to the manifest improvement in the lot and condition of the pauper lunatics that have hitherto been at the mercy of the so-called "county care" Dr MacDonald is, if we mistake not, the originator of the term "State care," and the practical developer of the idea itself An editorial writer has said of him and his colleagues that "the delicate, important and comprehensive work under their charge has been so well done by them that the thought of undoing it has become incredible, and the demand for its continuance and full completion has become irresistible Governor Morton has done nothing better than this appointment and he will do nothing better than it" Dr MacDonald was graduated by Bellevue Hospital Medical College in 1869 He has written comparatively little, but the neurologic journals have contained his views on malingering, traumatic insanity and surgery of the head in epilepsy

The New York Orthopedic Hospital —The twenty seventh annual report of this charity is a well illustrated pamphlet The Surgeon-in-Charge speaks of new and enlarged quarters that have contributed to an increased volume of charitable treatments The total of visits were 17,500, comprising patients having almost every deformity to which childhood is heir Dr Shaffer regrets that the institution is restricted to children of an age between 4 and 14 years In other words, the adolescents who apply for relief can not be accommodated Scarcely a week goes by that he does not have to turn away youths and misses between 14 and 20 years old, whose actual need for hospital treatment is quite as great as in the case of those of lesser age, whom his rules allow him to admit The expense account for instruments and plant and mechanical labor is very heavy, not less than $9,300, a repayment of $2,800 for braces, etc, leaves yet unpaid one of the most costly branches of Dr Shaffer's work, salaries alone to machinists are nearly $6,000 The report states that the sum of $4,000 has recently been donated to the Hospital for the erection of a modern operating room, the want of which has been grievously felt a long time

Factitious Buchu —The *Medical Age* states that a certain patent Buchu nostrum at one time afforded a business of $3,000,000 a year The writer states further that he has in his possession the formula of that nostrum, in Helmbold's own handwriting Its directions are to make a weak infusion of buchu and barberry leaves, sweetened with New Orleans molasses, colored with burnt sugar, and preserved by adding 16 per cent tincture of cubebs to the mixture To this was also added a small proportion of essence of peppermint to give the compound "that peculiar characteristic odor and taste of mint which distinguished genuine buchu preparations" The latter idea was derived from the description, in the United States Dispensatory, of buchu leaves, which states that "the odor is strong, diffusive, and somewhat aromatic, their taste bitterish, and analogous to mint" The fact that such a compound as this could be exploited successfully and its sale acquire such enormous proportions shows plainly the power of newspaper advertising Helmbold had the ability, however, of securing a great deal of gratuitous advertising His lavish style of living—his coach and four—his establishment at Long Branch—his so-called liberality by which he gave away pictures costing $20 apiece—all of these were used with consummate shrewdness for advertising purposes until the mention of Helmbold's eccentric doings became as much a part of the daily news as the accounts of base ball and yacht races

Nitrate of Silver in the Treatment of Burns —In cases of burns in the second degree, von Bardeleben (*La Semaine Medicale*) uses a 1 per cent solution of nitrate of silver in connection with sub-nitrate of bismuth After excising the blisters, the denuded surface is washed with a salt solution, 0 06 per cent, then with the nitrate, the surface is next dusted with bismuth and covered with cotton Each time that the dressing is changed the wounds from which the eschars have separated should be treated anew with the nitrate of silver

unfortunately for them there was a driven well very near their barracks, from which they derived the greater part of their drinking water On the other hand, the officers and their families residing in the Yard used cistern water only, and they were entirely exempt from malarial diseases, sickness of any kind among them being little or none At Fort Barrancas, only a mile from the Navy Yard, the enlisted men, more than double the number of the Marine Guard, used cistern water exclusively, and their health during the period of so much sickness among the Marines was excellent

"The third fact is as follows the present Naval Hospital buildings were constructed in 1875, on the foundations of the old hospital destroyed by fire during the civil war The water supply consisted until the early spring of 1890, of two driven wells eighteen feet deep During the whole time this water was used the place was very unhealthful, the attendants having attacks of malarial fever every year, and patients admitted with other diseases would often develop malarial manifestations while at the hospital During my first year at the hospital I apparently escaped the poison, but during the two succeeding years, 1888 and 1889, I had several attacks of malarial fever, my wife suffered from it even more than I, and our little girl, during her first and second summers, had typical paroxysms of intermittent fever In the spring of 1890 an old brick cistern, a relic of the old hospital, was repaired and put in use, since which time we have used cistern water only at the hospital for drinking purposes, and there has not been the slightest evidence of malarial trouble of any kind in my family"

A Court's Opinion of Insane Delusions —Until human nature radically changes, there will probably always be those who will seek some scapegoat for their crimes At one time it may be one thing, and on another occasion something quite different This explains much of the talk about irresistible impulse, hypnotism, insane delusions, and the like In this connection, one of the most interesting of recent legal decisions is that of the Supreme Court of Tennessee in the case of Wilcox v State, rendered Nov 12, 1894 This was an appeal from a conviction of murder in the second degree The defense relied on was the insanity of the defendant at the time of the homicide, it being insisted that the act was the result of an insane delusion upon his part, rather than a general derangement of his entire mental faculties upon matters generally It was contended that when he did the killing he was suffering from the insane delusion that the deceased had been on too intimate terms with his wife He had been addicted to the excessive use of morphin and cocain, taking the drugs in doses sufficient to kill twenty men not addicted to their use, at a single dose, and he had carried on this habit for years, and had grown rapidly more and more addicted to their use, and come more and more under their influence Many witnesses were examined, both experts and non experts, in regard to his mental condition It appeared that he was at one time a man of good mental capacity, described by many of the witnesses as an exceptionally bright man, that he was an active business man, had studied and practiced medicine with success, and was regarded universally as a man competent to attend to his business affairs He was also shown to have been an arbitrary dictatorial man of strong will power, and from his boyhood of quick, active, irritable temper It was strongly pressed upon the court that many of his arbitrary and dictatorial acts were evidences, and the result, of his mental unsoundness and the strong hold which the drugs had obtained over his actions, and that the evidence presented a case of insane delusion, on account of which the verdict should not be upheld But the court holds otherwise Its answer is that in criminal cases the correct issue is not that of sanity, but of responsibility The delusions of a sane man do not make him irresponsible The question is in such cases is the delusion set up as a defense the delusion of an insane person? Many men of strong minds, continues the court, have delusions Remarkable instances are given in the works on medical jurisprudence of delusions in men of prominence in all the walks of life Lord Kenyon had an unreasoning fear of poverty, and so did Lord Stowell, although he was a man of immense fortune, his home being absolutely destitute of the necessities and comforts of life Lord Erskine would never sit at a table or remain in a company as one of thirteen persons Lord Eldon, after he had made up his mind and expressed his opinion lucidly and conclusively, was at all times a prey to grave doubts of his correctness Lord Brougham, upon more than one occasion, was placed in seclusion, his mind being clearly off balance Judge Breckenridge of Pennsylvania, is reported to have on a hot day, while holding court at Sunbury, gradually taken off his clothes until he sat naked on the bench Judge Baldwin, of the United States Supreme Court, was a hypochondriac A distinguished New England judge imagined that a dropsical affection under which he labored was a sort of pregnancy And yet none of these men were insane, because they had reason and sanity enough to conquer and overcome these delusions A familiar illustration is that of the Mormon elders, who claimed that they had a direct revelation from heaven permitting them to practice and teach polygamy The world generally regards this as a rank heresy, and the claim to be the evidence of an unreasonable delusion It has, however, been held that they can not defend on the ground of such delusion, inasmuch as otherwise they are sane, shrewd, active, successful, and unusually practical men in their business and social relations, and they have been held responsible for such delusions Nor can it be that the jealous suspicions which so many men entertain without any foundation can be magnified into insane delusions, which will exempt them from punishment for crimes originating in such jealousy In a sense, all unfounded suspicions are delusions but they do not for that reason excuse crime

The rule is tersely stated in Archbold's "Criminal Practice and Pleading" as follows "The insanity must have been of such a kind as entirely to deprive the prisoner of the use of reason, as applied to the act in question and the knowledge that he was doing wrong in committing it If though somewhat deranged, he is able to distinguish right from wrong in his own case, and to know that he was doing wrong in the act which he committed, he is liable to the full punishment of his criminal acts"

Moreover, the court makes the point that the insanity set up as a defense in this case was not hereditary or natural, but voluntary, in the sense of having originated from the use of drugs While this is an unfortunate and unhappy condition, the law, it says does not and can not regard it with the same leniency that it does cases of adventitious insanity, not caused by the act of the party himself Parties who persist in subjecting themselves to the persistent use and habit of taking alcoholic drink or other poisonous compounds and drugs can not expect the same forbearance and immunity from punishment as those bereft of reason by the act of God Still it is admissible and proper to show the immoderate use of drugs or whisky, not to excuse crime, but to illustrate the mental condition, with a view to fixing the degree of the crime as it depends upon deliberation and cool malicious purpose

Society Notes

Illinois State Medical Society —Members of the Illinois State Medical Society desiring to attend the annual meeting of the American Medical Association as delegates, are requested to send their names at once to the Permanent Secretary

The seventh annual meeting of the Shelby County Medical Society will be held in Shelbyville, Ind, Monday, April 8, 1895 ——The next meeting of the Washington State Medical Society will be held in Seattle, May 21, 22, and 23 1895

College Commencements

The Western Pennsylvania Medical College, Pittsburg, March 21, sixty-three graduates ——Chattanooga Medical College, (Tenn) March 14, fifteen graduates ——Ensworth Medical College, St Joseph, Mo, March 14, fourteen graduates ——Beaumont Hospital Medical College, St Louis, March 14, seventeen graduates ——Toledo, Ohio, Medical College, March 19, six graduates ——College of Physicians and Surgeons, Kansas City, Kan, March 19, seven graduates —— Ohio Medical University, Columbus, March 19, thirty-six graduates ——Cleveland, Ohio, Medical College March 20, thirty-nine graduates ——Wooster Medical College, Cleve-

etc By means of the necessary papers, each physician residing in the different wards is requested to notify their respective chairmen of their willingness to serve during the Encampment, and these chairmen are to make a daily report to the Director during the Encampment, of the workings of their respective ward organizations

Prison Physician —Dr Waller Dade, the present physician to the Frankfort Penitentiary will resign during April, and already there are many candidates for the position to be vacated

City Hospital —The first honor men from the two winter schools, recently graduated, will begin their term of service in the City Hospital, on April 1 for one year, as resident physicians

Mortality —Of the eighty-three deaths reported for the past week, twenty-five were due to pneumonia, eight to consumption, five each to organic heart disease, meningitis and old age, there were five stillbirths

THE PUBLIC SERVICES

DIPHTHERIA-ANTITOXIN

The following letter has been sent to all U S Marine Hospital Stations

Treasury Department, Office of the Supervising Surgeon General
Marine Hospital Service
Washington, D C, March 23, 1895

Medical Officer in Command,

Sir —There have been forwarded to you   bottles of diphtheria antitoxin for use in cases of diphtheria occurring among patients of the Service at your station

Your attention is called to the circular accompanying the diphtheria antitoxin, which you will observe so far as may be possible in the administration of the remedy A full and complete clinical report should be made of each case treated, and transmitted to this office

Respectfully yours,
Walter Wyman, Supervising Surgeon General, M H S

Directions for the Administration of Diphtheria-Antitoxin

U S Marine Hospital Service—Hygienic Laboratory
March 22, 1895

DIPHTHERIA

It is impossible to clinically differentiate many cases of diphtheria from other acute inflammations of the upper air passages Diphtheria does not in all cases produce an exudate An exudate does not always mean diphtheria Diphtheria frequently simulates follicular tonsillitis, pharyngitis, acute and sub acute rhinitis—especially acute follicular tonsillitis. On the other hand inflammations of the upper air passages which are accompanied with an exudate may be caused by other micro organisms than the *bacillus diphtheriæ*, viz the pus organisms (streptococcus pyogenes, the staphylococci pyogenes aureus and albus), the pneumococcus and the bacillus of Friedlander

In the majority of cases a bacteriologic examination is necessary to determine the character of the disease, requiring from twelve to eighteen hours

METHOD OF MAKING A CULTURE IN CASE OF SUSPECTED DIPHTHERIA

The material for making the culture should be taken from the throat before any germicide has been applied locally, or after the expiration of two hours if such local application has been made

Two test tubes should be provided, one containing a quantity of coagulated blood serum, the other a small cotton swab on a steel wire,—all properly sterilized

The patient should be placed in as good a light as possible, the tongue depressed sufficiently to bring the pharynx into view The swab should then be passed into the pharynx and the exudate rubbed gently, a slight rotary motion being given to the swab If there is no exudate visible pass the swab well into the pharynx, touching its posterior wall and pillars of the fauces Without laying the swab down, remove the cotton plug from the tube containing the coagulated blood serum insert the swab and rub that portion of it which has touched the exudate, or contains the secretions, gently and thoroughly over the surface of the blood serum, making at least three or four strokes Due care should be taken not to break the surface of the blood serum Remove the swab and return the cotton plug Without laying the swab down, replace it in its container, here it can be kept for further cultures or direct examination

The inoculated tube should be placed in a thermostat and be kept at a temperature from 36 5 degrees, to 38 degrees C, from twelve to eighteen hours At the expiration of this time the colonies will have developed sufficiently for examination Cover slip preparations should then be made therefrom, and examined with the microscope

If the case is one of diphtheria, cultures should be taken every five or six days after the disappearance of the membrane This is to determine when the *bacillus diphtheriæ* disappears So long as the *bacillus diphtheriæ* is to be found the case is liable to impart the disease to others The bacillus may remain for a long time—even weeks—after the patient has apparently convalesced The same rule and precautions should be exercised in making the latter cultures as are recommended for the first

DIPHTHERIA ANTITOXIN

The diphtheria antitoxin herewith furnished is prepared from the blood of the horse It contains 0 4 per cent of trikresol, added to it for its preservation, and has been filtered through unglazed porcelain If kept in a cool place, away from the light, it will maintain its strength unimpaired at least six months The diphtheria antitoxin is put up in bottles of two sizes, containing 20 c c and 10 c c respectively The 20 c c size has an immunizing strength of 1 to 50,000 the 10 c c size 1 to 100 000 (An immunizing strength of 1 to 50,000 means that 1 c c of antitoxin will protect 50,000 grams of guinea pig against a lethal dose of toxin and 1 to 100,000 means that 1 c c of the antitoxin will protect 100,000 grams of guinea pig against a lethal dose of toxin)

INDICATIONS FOR ITS USE

To obtain the best results the diphtheria antitoxin should be administered in the early stages of the disease—not later than the fourth day, and be given in a full therapeutic dose The quantity required for an adult is from 20 to 40 c c of an immunizing strength of 1 to 50 000, or from 10 to 20 c c of an immunizing strength of 1 to 100,000, for a child over 4 years one half the quantity required for an adult, for younger children, a quantity proportionately less Cases of mixed infection (diphtheria and pus organisms) require larger quantities of diphtheria antitoxin, and should be administered at shorter intervals

As a prophylactic, one half the quantity required in the treatment of diphtheria will usually be sufficient

INJECTION

The syringe and needle should be sterilized in boiling water just prior to use The site for the injection should be selected where the skin is loose The most suitable is the side just over the costo chondral articulation, or on the outer side of the thigh The skin should be thoroughly disinfected by a solution of bichlorid of mercury or some other antiseptic the puncture being closed by freshly bichlorided cotton or iodoform collodion

A clinical history should be kept of each case, and should embrace the following

1 The presence or absence of the membrane, if present, its location and extent
2 The results of the bacteriologic examination
3 The day of the disease on which treatment was begun
4 The date of each administration, and the strength and quantity given of the diphtheria antitoxin
5 The alterations observed in the membrane, the pulse, the temperature, the respiration and the general condition, time when such alterations occur
6 The date of tracheotomy or intubation, if required
7 The date when the bacilli disappear
8 The date and character of such complications as erythema, joint pains, albuminuria hematuria, paralysis or pneumonia, also date of post mortem examination If a post mortem is made special attention should be given to the appearance of the heart and kidneys

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Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U S Army, from March 16 1895, to March 22, 1895

First Lieut Alexander S Porter, Asst Surgeon, leave of absence granted, on surgeon's certificate of disability is extended four months on surgeon's certificate of disability

Major Philip F Harvey, Asst Surgeon, leave of absence granted for seven days is extended twenty-one days

Capt Euclid B Frick, Asst Surgeon will be relieved from duty at Ft Townsend, Washington, to take effect upon the expiration of his present leave of absence, and will then report for duty at Presidio of San Francisco, Cal, relieving Capt Charles Willcox, Asst Surgeon Captain Willcox, upon being thus relieved, will report for duty at the U S Military Academy, West Point, N Y, relieving First Lieut Frederick P Reynolds, Asst Surgeon Lieut Reynolds, on being thus relieved, will report for duty at Ft Sam Houston, Texas

Navy Changes Changes in the Medical Corps of the U S Navy for the week ending March 23, 1895

Medical Director Michael Bradley, ordered before retiring board, March 20, 1895

P A Surgeon F A Hesler, ordered to the U S S "Philadelphia"

P A Surgeon R P Crandall, detached from the U S S "Philadelphia," ordered home and granted three months' leave of absence

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LETTERS RECEIVED

Alta Pharmacal Co, St Louis, Mo Appleton, D & Co, New York, N Y

Brown, E J Minneapolis, Minn Bowker, E M, Boston, Mass Bowers, J E, Duluth Minn Banta, C F, Eureka, Ill Bowers, R W, Socorro, N M Bennett, R G, Pittston, Pa, Bernd, Henry & Co, St Louis Mo, Bell, W H, Logansport, Ind

Dunn G & Co, St Paul, Minn

Edgerly, E T, Ottumwa, Iowa, Egbert, Seneca, Philadelphia, Pa, Ettinger, Chas S, New York, N Y

Frontis, D B Ridge Spring, S C, Fredigke, Chas C, Chicago, Ill

Getz, H L Marshalltown, Iowa

Hall Geo E, Cleveland Ohio Hummel A L, Philadelphia, Pa, (2); Henkel F W E Chicago, Ill Hampton, S E Milton, Ky, Herrmann, John & Son, Green Bay Wis Hand, W R Kasota, Minn

Kelly, E, Lebanon, Ky, Kent, Jas L, Bertha Va, Kinneman, A S, Cleveland Ohio Kuh, E J Chicago, Ill

Linger, O E, Starbuck Minn

Morgenthau, Geo, Chicago, Ill McCormick H G, Williamsport, Pa MacAlister, J Geo London, England, Moyer, H N, Chicago Ill

Nance Willis D Berlin, Germany Noyes Bros & Cutler, St Paul Minn Nordhoff S A Washington D C

Owsley, W T Glasgow Ky Owens John E, Chicago, Ill

Parke, Davis & Co, Detroit, Mich, Purdy, C W, Chicago, Ill, Papoid, The Co New York, N Y

Rüehenfeldt & Co, St Louis, Mo

Seiler Geo, Alma, Wis Smith, E Burchard Neb Savage, G C, Nashville, Tenn, Smart, Chas, Washington D C, Smith, L C, Austin, Texas Senn, N Chicago, Ill, Smith A Minneapolis, Minn Smith, C H, Lebanon, Ind

Thompson, R L Spokane, Wash Thorp D D, Lansing Mich, Todd John N, Shady Grove, Ky Tuley Henry E Louisville Ky

Wertz T, Evansville Ind Wilson N L Elizabeth N J, Wiggins, Wm H Jr, Chicago Ill, Warner, W R & Co Philadelphia, Pa. Wantmann, Emma New York, N Y, Weaver, W H, Chicago, Ill Würdemann, H V, Milwaukee, Wis

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